REPORT

OF THE

Committee on Amalgamation of Collieries

1956

PART I

सत्यमेव जयते

23 M of Production.

CONTENTS

CHAPTER I.—INTRODUCTION

	PARA	PAGE
Appointment and terms of reference	1—2	1
Amendment of the terms of reference	3—5	2
An Interpretation	6	3
The Committee's procedure	7—11	4
Our approach to the problem	12	7
The Questionnaires of the Committee	13-14	8
Witnesses	15	9
Acknowledgments	16	9

CHAPTER II.—THE BENGAL AND BIHAR COALFIELDS.

	PARA	PAGE
Progress and Development of Mining in India	1—9	10
The present position	10—12	15
Leases, Intermediaries and Royalties	13-14	17
Production and methods of production	15—17	18
Labour	18-19	19
Transport and its effect on production	20—24	20
Summary	..	22

CHAPTER III.—THE BACKGROUND TO THE PROBLEM OF AMALGAMATION AND THE APPOINTMENT OF THE COMMITTEE

	PARA	PAGE
The 1919 Report and the 1920 Committee	1—2	23
The views of the Coal Mining Committee, 1937	3—4	24
The Indian Coalfields Committee	5—11	24
The Working Party of the Coal Industry—1951	12	27
Discussions with the Industry 1952 to 1955	13—15	27
Summary	..	28

CHAPTER IV.—EXPERIENCE IN FOREIGN COUNTRIES.

	PARA	PAGE
General	1	29
Great Britain	2—12	29
Germany	13	34
France	14	34
Netherlands	15	35
Belgium	16	35
U. S. A.	17	35
Australia	18	36
Summary	..	36

CHAPTER V.—THE LAWS AFFECTING THE COAL INDUSTRY

	PARA	PAGE
The Mines Act and the Indian Coal Mines Regulations	1	37
The Coal Mines (Conservation and Safety) Act and the Coal Board	2	38
The Colliery Control Order 1945 and the Coal Controller	3	39
The Welfare, Rescue and Provident Fund Organisations	4	41
The Mines and Minerals (Development and Regulation) Act 1948	5	42
The Bihar Land Reforms Act 1950	6	43
The West Bengal Estates Acquisition Act 1953	7	43

CHAPTER VI.—THE SMALL COLLIERIES AND THEIR PROBLEMS

	PARA	PAGE
History	1—3	45
Performance	4—8	46
The Colliery Control Order and its effect	9	48
Labour amenities and other factors	10—13	49
The Capacity of the small collieries	14	52
Technical Management	15—16	52
Their place in the industrial structure	17—19	53
Summary and Conclusions	20	56

CHAPTER VII.—IRREGULAR BOUNDARIES

	PARA	PAGE
Present position	1	57
Problems created by Irregular boundaries etc.	2—4	57
Relation between geological and surface features and mine boundaries	5—10	58
Causes of unsuitability of barriers	11	58
Previous consideration of the question	12	59
Main difficulties in adopting remedial measures	13—14	59
Remedial measures suggested and conclusions	15—17	60
Recommendations	..	60

CHAPTER VIII.—COAL CONSERVATION

	PARA	PAGE
The Reserves of Coal	1—3	73
Safety and Conservation	4—6	75
Stowing	7—9	77
Coal Washing	10—11	80
Blending	12	81
Rotation of workings	13	82
Waste in not working thin seams	14	82
Selective mining	15	82
Recommendations	..	83

CHAPTER IX.—MODERNISATION AND MECHANISATION

	PARA	PAGE
Planning	1—4	84
Mechanisation	5—10	85
Improving O.M.S. in existing Mines	11—13	87
Mechanisation in relation to amalgamation	14,15	88
Recommendations	..	88

CHAPTER X.—PROPER SIZE OF A COLLIERY AND THE COLLIERIES TO BE AMALGAMATED

	PARA	PAGE
Present classification of collieries	1—2	89
Classification according to area, labour strength etc. . . .	3—5	90
The relation of output to various factors and the economics of mining	6—8	94
Various views regarding size of a colliery	9—11	95
Our conclusions	12—15	97
Summary	..	100
Recommendations	..	100

CHAPTER XI.—THE OBJECTIVES AND SCOPE OF AMALGAMATION OF COLLIERIES

	PARA	PAGE
Survey	1	101
The General scope of amalgamation	2	101
Seam-wise fragmentation of collieries.	3	102
Non-contiguous collieries	4	102
Amalgamation of working seams	5	103
The exploitation of virgin seams	6	103
Discontinued collieries	7	104
Summary	..	104
Recommendations	..	104

CHAPTER XII.—METHODS AND PROCEDURE OF AMALGAMATION AND ADJUSTMENT OF IRREGULAR BOUNDARIES

	PARA	PAGE
Methods of amalgamation and adjustment of boundaries .	1	105
The Machinery to draw up schemes	2	106
Voluntary amalgamation , before the appointment of the Commission	3	107
The procedure and the time table	4	108
Recommendations	..	109

सत्यमेव जयते

CHAPTER XIII.—CENTRAL LEGISLATION REQUIRED

	PARA	PAGE
The position regarding mineral rights	1	111
The recommendation of the Indian Coal Fields Committee	2,3	111
The Bengal and Bihar Acts	4	111
Royalties and intermediaries	5,6	112
Mines and Minerals (Development and Regulation) Act	7,8	112
Other Central Acts	9	114
Legislation required	10	114
Summary	..	117
Recommendations	..	117

CHAPTER XIV.—VALUATION OF COLLIERIES, FINANCE AND THE ORGANISATION TO RUN THE AMALGAMATION UNITS

Experience in U. K. and France	2	118
Methods of valuation	3	118
Suggestions regarding valuation	4,5	119
General practice in India	6	121
Details of assets	7	122
Procedure for valuation	8	123
The Valuation of reserves	9	123
Exceptional cases	10	124
Compensation to the participating owners	11	124
Finance for the amalgamated units	12,13	125
The organisation to run the amalgamated units	14—16	126
Recommendations	..	127

CHAPTER XV.—EFFECT ON EMPLOYMENT OF LABOUR

Views regarding possible retrenchment of Labour	1—4	129
Mechanisation after amalgamation	5, 6	130
Our examination of the problem	7—10	130
O. M. S. in production groups	11—14	131
Adjustment required	15—16	133
Absorption of workers who may be rendered surplus	17	133
Conclusions and Recommendations	18	134

CHAPTER XVI—CONCLUSIONS AND RECOMMENDATIONS. 137—144

NOTES

1. Note of Dissent by Shri Chapalendu Bhattacharree. 145
2. Note by Shri B. N. Banerjee. 146
3. Note by Sarvashri J. N. Mookerjee, B. L. Agarwalla and R. Maulik 148

APPENDICES

The appendices to the report are presented in Part II of the Report in a separate volume]

CHAPTER I

INTRODUCTION

Appointment and terms of reference:

1. The Collieries Amalgamation Committee was appointed by the Government of India, Ministry of Production in their office memorandum No. C2-23(10)/52, dated 10th November, 1955. The memorandum is reproduced below:—

"The question of amalgamation of a large number of small and irregularly shaped collieries, existing particularly in the Bengal and Bihar Coalfields has been engaging the attention of Government for some years past. These small collieries which have resulted from various causes, the principal amongst which is the practice of salami, tend to be uneconomic and wasteful with certain exceptions. They generally do not permit of scientific planning, development and mechanisation and such fragmentation also results in loss of coal in barriers. The question was examined at length by the Indian Coalfields Committee (1946) and subsequently by the Working Party for the Coal Industry (1951). Both these Committees have strongly recommended that such colliery units should be amalgamated in the interests of the country. The Coal Industry has been consulted and they have agreed that such amalgamation is desirable and a Committee should study the position in the Raniganj and Jharia Coalfields and work out definite proposals. The Government of India are, therefore, pleased to constitute a Committee to examine the various issues involved and make recommendations.

The Committee will consist of:—

(1) Shri Balvantray Gopaljee Mehta, M.P., *Chairman.*

(2) Shri N. P. Nathwani, M.P., *Member.*

(3) Shri R. R. Morarka, M.P., *Member.*

(4) Shri Ahmed Mohiuddin, M.P., *Member.*

(5) Member Secretary & Chief Mining Engineer, Coal Board, *Member.*

(6) Chief Inspector of Mines in India, *Member.*

(7) One representative of Indian Mining Association, *Member.*

(8) One representative of Indian Mining Federation, *Member.*

(9) One representative of Indian Colliery Owners' Association, *Member.*

(10) Shri Baidya Nath Banerjee, *Member.*

(11) Shri Chapalendu Bhattacharjee, *Member.*

(12) Shri Kanti Mehta, Secretary, Indian Mine Workers' Federation, Dhanbad. (Representative of Labour), *Member.*

(13) Shri S. Mayuranathan, Deputy Secretary, Coal Board, *Secretary.*

The Committee will have the authority to associate with its work advisers or other representatives of the Industry to give technical opinion or to give evidence at any of its meetings.

The terms of reference of the Committee will be as follows:—

(i) To examine the position of the Collieries in Raniganj and Jharia Coalfields and to make proposals for their amalgamation into single economic units taking into account the areas of holdings, the current output and capacity of the collieries, geological and geographical and other relevant features, the need for efficient and economical production, conservation and preparation of coal by such proctss as washing etc.,

(ii) to consider the objective in relation to existing State Legislation and to suggest whether Central Legislation will be necessary for carrying out amalgamation, and if so, to recommend the content of such legislation."

2. The Indian Mining Association, Indian Mining Federation and Indian Colliery Owners' Association nominated the following representatives:—

Indian Mining Association—Shri R. Maulik.

Indian Mining Federation—Shri J. N. Mukherjee.

Indian Colliery Owners' Association—Shri B. L. Agarwalla.

Shri M. L. Shome, Chief Mining Engineer & Member Secretary, Coal Board and Shri S. S. Grewal Chief Inspector of Mines in India, were members of the Committee throughout.

Amendment of the terms of reference:

3. In our discussions, soon after the appointment of the Committee, we found that in the State of Bihar, in addition to the small coalfields of Jharia and Raniganj, there were several small collieries in the Bokaro, Karanpura and other fields. We felt that, the amalgamation of collieries in these areas might be of as much importance and urgency as in the Jharia and Raniganj coalfields. We also felt that, in the process of amalgamation of collieries, a small colliery may have to be amalgamated with an adjacent large colliery or that in the groups to be formed by amalgamation, some large collieries may also have to be included. The terms large and small as applied to a colliery had to be defined. It therefore appeared desirable that the Committee should have latitude in examining the issues unrestrained by the term 'small' in the terms of reference.

4. Another point was concerned with the problem of irregular boundaries which, it appeared, existed in large mines also and which might require careful consideration. The question also arose whether the Committee was required only to make general proposals regarding amalgamation, the machinery to be set up to arrange for the amalgamation, the administrative organisation to run the amalgamated units and the legislation required to effect

amalgamation or whether the Committee was required to draw up schemes for amalgamation of collieries in groups. We, therefore, sought clarification from the Government on the various points and requested the Government of India to amend, if need be, the terms of reference.

5. The Government of India in their Office Memorandum No. C2-23(10)/52, dated 4th February, 1956 revised the terms of reference to the Committee. The memorandum is reproduced below:—

"The undersigned is directed to say that the Government of India have decided to revise, as follows, the terms of reference of the Committee set up in Production Ministry's Office Memorandum No. C2-23(10)/52, dated 10th November 1955, to investigate into the question of amalgamation of collieries:—

(1) To undertake a survey of the present position regarding the collieries in West Bengal and Bihar States with a view to their amalgamation into single economic units, and adjustment of boundaries where such adjustment is considered to be necessary for efficient production and conservation of coal etc. In making the investigation, account is to be taken of the principal relevant factors including the area of holdings, the current output and capacity of collieries, geological and geographical and other relevant features, the need for efficient and economic production and the conservation and preparation of coal by such process as washing etc.; and

(2) On the basis of such a survey to make recommendations to Government as to:—

(i) General scope of the scheme for amalgamation of collieries and adjustment of boundaries.

(ii) The principles, procedures and methods in general to be adopted for carrying out the scheme.

(iii) A time schedule for implementation of the scheme.

(iv) Central Legislation (including rules under existing laws, if any) which may be required to enable the amalgamation scheme to be implemented."

An interpretation:

6. A question was raised whether according to the terms of reference, the necessity for amalgamation and the principle of amalgamation itself was a matter upon which we were asked to comment or to enquire into. It was agreed that the principle of amalgamation had been accepted by Government and that we were only required to make a survey and to make recommendations regarding schemes of amalgamation, adjustment of boundaries, the principles to be adopted to carry out the scheme, the time schedule for implementation of the scheme and legislation required to enable such implementation.

The Committee's procedure and programme.

7. The Committee was appointed on the 10th of November, 1955 and was expected to submit its report within two months. Even if the principle of amalgamation had been readily accepted by all sections of the industry, including the section which was principally concerned, it would have been impossible for us to examine all aspects of the question and submit a report within two months. Our task was none too easy. The owners of small collieries had their own ideas on the question. Though the general or majority view of the Industry had been that amalgamation was desirable, we discovered that this view was not shared by a large number of small colliery owners. There was a lack of proper understanding of the need for, the scope of and the ultimate result of amalgamation and there was a body of opinion that held the view that it would completely upset the coal industry. This body which appeared to have a measure of numerical strength, held meetings and circulated representations all round. We did not feel called upon to go, into the question whether amalgamation was necessary and, though we did examine the advantages and probable disadvantages of amalgamation, we had no intention of going further into the basic principle accepted by Government and we made this fact quite clear very early in our deliberations.

8. We had our first meetings on the 12th and 13th December, 1955 at New Delhi. We then decided to issue two sets of questionnaire, one to the collieries and the other to officials, organisations and experts connected with the coal industry. The draft questionnaires prepared by the Secretary were examined, amended and approved. Prior to this, the Secretary had issued, in consultation with the Chairman, a short questionnaire to collieries on 2nd December, 1955, calling for certain statistical data. We also set up two Sub-Committees constituted as follows to make on the spot studies of the problem; the study of these Committees would, we thought, be of considerable assistance in our work and the further deliberations of the main Committee.

Sub-Committee 'A'

Shri N. P. Nathwani, M.P., *Chairman.*

Shri R. R. Morarka, M.P., *Member.*
Shri S. S. Grewal, *Member.*
Shri C. Bhattacharjee, *Member.*
Shri R. Maulik, *Member.*
Shri B. L. Agarwalla, *Member.*

Shri S. Mayuranathan, *Secretary.*

Sub-Committee 'B'

Shri A. Mohiuddin, M.P., *Chairman.*

Shri M. L. Shome, *Member.*
Shri J. N. Mukherjee, *Member.*
Shri B. N. Banerjee, Member.
Shri Kanti Mehta, *Member.*

Shri A. K. Mitra, Inspecting Officer, Coal Board, *Secretary.*

These Sub-Committees toured the coalfields in the last week of December, 1955 and made reports to the main Committee. The questionnaires sent out by 22nd December, 1955 and replies were expected by 15th January, 1956.

9. We had the next series of meetings in Calcutta from the 12th January, 1956, onwards. We had hoped that some replies to our questionnaire would have been received by then and that we could examine them. But we found that very few replies had come to the two questionnaires sent to collieries and the one sent to officials, organisations and experts. We were informed that the Associations were pre-occupied with other work and the collieries were busy drawing up their development plans in connection with the Second Five-Year Plan, and were therefore not able to submit replies to our questionnaire within the specified period and wanted extension of time up to the 29th February, 1956. It was agreed that extension might be granted upto the 7th February, 1956. The Committee also met at Dhanbad on 15th January, 1956. The Indian Collieries Union and the Indian Colliery Owners' Association, who appeared to be largely concerned, were asked to send their representative to meet the Committee. The Indian Collieries Union did not come. Some representatives of the Indian Colliery Owners' Association, however, met the Committee. The owners of small collieries among them presented their case to the Committee. The Chairman summed up the position to them. Subsequently the Chairman through the kind courtesy of the Committee of the Indian Colliery Owners' Association addressed a meeting of all the members of the Association pointing out to them the fact that the Committee had to proceed on the basis that the need for amalgamation was an accepted fact and that in their own interest the colliery owners should give their fullest co-operation to the Committee. During these meetings the Committee took evidence from the Coal Mines Welfare Commissioner and the Coal Mines Provident Fund Commissioner and also drew up a list of witnesses to be examined at a subsequent meeting. It was also decided to set up a Legal Sub-Committee to examine the position of colliery leases, rights of royalty holders etc. as a result of the Bihar Land Reforms Act and the West Bengal Estate Acquisition Act and other enactments and submit proposals regarding the legal aspects of the question of amalgamation and adjustment of irregular boundaries. The Committee was constituted as follows:—

Shri N. P. Nathwani, M.P., *Chairman.*
Shri B. N. Banerjee
Shri Kanti Mehta.
Shri Chapalendu Bhattacharjee.

10. At the next series of meetings held in Calcutta from the 2nd to the 7th March, 1956, the Committee examined witnesses. During these meetings the Committee also considered notes on valuation of collieries, the existing legislation relating to coal, stowing and other matters prepared by the Secretariat. The Committee set up three more Sub-Committees to deal with the following matters:—

(1) *Valuation and Finance Sub-Committee.*

Shri R. R. Morarka, M. P. *Convenor*
Shri R. Maulik.
Shri M. L. Shome.

to study the question of valuation of collieries and the finance required for amalgamated units and to make a report to the main Committee.

(2) *Labour Sub-Committee*

Shri J. N. Mukherjee.
Shri Kanti Mehta, *Convenor.*
Shri S. S. Grewal, and
Shri Chapalendu Bhattacharjee.

to study and report on the possibility and extent of labour retrenchment likely as a result of amalgamation and to make recommendations to the main Committee regarding methods of tackling the problem.

(3) *Amalgamation Schemes Sub-Committee*

Shri R. Maulik.
Shri J. N. Mukherjee.
Shri B. L. Agarwalla.

to submit a tentative proposal regarding amalgamation schemes.

The revised terms of reference required the Committee to undertake a survey of the present position regarding the collieries in West Bengal and Bihar States. The Committee agreed to the appointment of a Survey Party consisting of the following to make a study and report to the Committee after visiting the collieries.

Survey Party

Shri B. H. Engineer.
Shri P. H. Pandya.
Shri S. Mayuranathan.
Shri S. G. Krishnan.

सत्यमेव जयते

Shri Mayuranathan was authorised to depute officers of the Coal Board to be associated with the Party on his behalf and accordingly Shri A. K. Mitra and Shri U. N. Jha, Inspecting Officers, Coal Board, were associated with the work of the Survey Party.

The Committee also met the members of the Committees of the Indian Mining Association, the Indian Mining Federation on the 7th March, 1956 and had a free exchange of views and ideas in regard to amalgamation and the problems associated with it.

11. The Committee met again in Delhi on the 17th and 18th April, 1956. At these meetings the Committee examined the record of evidence taken at previous meetings, formulated the various points for decision by the Committee and discussed the first Interim Report of the Labour Sub-Committee. The draft frame-work of the Committee's report was studied and approved. The drafting of certain chapters on subjects relating to labour, finance, mining and coal conservation were entrusted to the members who are experts on the subjects.

The subsequent meeting of the Committee was held at Delhi on the 21st and 22nd May, 1956. At these meetings the Interim Report of the Survey Party, the second report of the Labour Sub-Committee and the report of the Law Sub-Committee were discussed and directions given to the Sub-Committees on certain points on which further clarification was needed. It was also decided to set up the following additional Sub-Committees:—

(1) *Drafting Sub-Committee.*
Shri A. Mohiuddin, *Convenor.*
Shri S. S. Grewal.
Shri Kanti Mehta.
Shri R. Maulik.

This Committee was to examine the draft chapters already drawn up and finalise them.

(2) *Sub-Committee on the Adjustment of Boundaries*
Shri S. S. Grewal, *Convenor.*
Shri B. L. Agarwalla.
Shri M. L. Shome.
Shri N. P. Nathwani.

This Committee was to examine the question of adjustment of boundaries and make recommendations.

It was also decided that Shri B. L. Agarwalla should be included in the Labour Sub-Committee and that Shri A. Mohiuddin should be a member of the Valuation Sub-Committee.

The Labour Sub-Committee was entrusted with the additional work concerning the general aspects of labour amenities and labour welfare. The Valuation Sub-Committee was also requested to deal with finance of the amalgamated units and the future structure of the Coal Industry. The Law Sub-Committee was requested to discuss the legal aspects with the Coal Industry and to finalise their report. All the Sub-Committees were requested to make their final reports ready by the 15th July, 1956. As a complete and thorough examination of the various issues by these Sub-Committees was considered essential before the Main Committee could come to definite conclusions in regard to matters included in its terms of reference, and as it was not expected that it would be possible to do so before August, it was decided that the Government should be approached for an extension of the time for submission of the Committee's report.

Our approach to the problem

12. The need for amalgamation of small collieries has been thought about from 1919. Various Committees have commented on the unsatisfactory position resulting from the fragmentation of coal properties and the existence of several small collieries. Our task

was to find out how amalgamation should be implemented. We had to know the condition of small collieries. This we decided to do by—

- (a) Eliciting factual information and views from all the collieries in Bengal and Bihar through questionnaire.
- (b) Inviting opinions from officials, organisations and experts on the questions.
- (c) Exchanging views and opinion in discussions with Associations.
- (d) Taking evidence.
- (e) By ourselves making on the spot studies.
- (f) By a rapid survey of the position of the collieries in West Bengal and Bihar.

By these means we have been able to obtain a general picture of the conditions in the small collieries and their methods of production, labour amenities, wastage, capacity and other factors. We have tried to find out what should be the requisites of a mine which can carry out planned mining, provide labour facilities, produce coal by mechanisation, accompanied by stowing where necessary, process the coal according to modern methods and maintain its existence for a sufficient period. Having come to some general conclusions regarding the area, shape, output etc. of such a colliery we have attempted to draw up our proposals for amalgamation of collieries.

Questionnaire

13. The questionnaire issued to organisations, experts and officials asked for their views on the optimum area, output and shape, the factors to be considered for amalgamation and readajustment of boundaries, the effect of amalgamation on transport, stowing etc., the difficulties due to the existence of intermediaries and different royalty rates, whether amalgamation can be voluntary or should be compulsory, the legislation required, the agency to effect amalgamation and the set up of amalgamated units, the valuation of collieries and labour retrenchment.

The persons addressed and those who replied may be classified as follows:—

	No. Addressed	*No. Replied*
1. Officials	55	17
2. Mining Associations and other organisations.	12	9
3. Mining Engineers.	28	12
4. Chamber of Commerce.	5	2
5. Labour Organisations.	3	2
6. Others.	15	12
	118	54

14. The questionnaire issued to collieries asked for factual data and plans and views of the owners. Nearly 860 letters were addressed to collieries. But only 500 replies have been received. And among the replies received many are incomplete. This has been unfortunate because most of those who did not reply were small collieries vitally concerned with our enquiry.

Witnesses

15. We have examined altogether 25 witnesses, who may be classified as follows:—

Officials	11
Mining Engineers	5
Labour Organisations	5
Others	4
	25

So far as the Associations were concerned we did not actually examine witnesses. Instead we arranged for discussions for clarification of views and exchange of ideas. These discussions proved extremely useful because they brought the Committee and the Associations in closer contact and permitted freer expression of views than would have been possible in the more formal procedure of examinations of witnesses. We are grateful to the Associations and to individual members for the several opportunities we had of discussing many issues.

सत्यमेव जयते

Acknowledgments

16. We wish to express our thanks to the Indian Mining Association, Indian Mining Federation and the Indian Colliery Owners' Association for their co-operation and help. Our thanks are also due to Shri P. H. Pandya, Shri B. H. Engineer and Shri S. G. Krishnan, members of the Survey Party, who readily agreed to undertake onerous duties and visited several collieries and placed before us a useful report. Shri A. K. Mitra and Shri U. N. Jha, Inspecting Officers of the Coal Board, ably assisted the Survey Party and we are thankful to them.

We wish to express our gratitude to our Secretary, Shri S. Mayuranathan, whose intimate knowledge of the Coal Industry, mastery of details and command of facts were always of immense assistance to us. He has helped us greatly in the preparation of the report. His was a difficult and strenuous task and it has been performed most efficiently and enthusiastically in the midst of his other responsibilities as Deputy Secretary, Coal Board.

We wish to record our appreciation of the work of Shri B. B. Roy, Superintendent, and the efficient performance of duty by the Staff of the Committee.

CHAPTER II

THE BENGAL & BIHAR COALFIELDS

Progress and Development of Mining in India

1. There is no authentic record of the existence of coal having been known in India before 1774. The view has however been expressed that the name, Angarpathra, derived from the Sanskrit *"Angaspathar"* (stone of char-coal) and other names like Barakar, Kalipahari and Kankanee indicate that coal and its uses in India date back several centuries. The first known coal mine in India was opened in Bengal in the year 1774. But regular production of coal in mines in India started after 1850 and by 1860 the total production had reached a figure of 3,70,000 tons. In 1870 it was 5,00,000 tons and in 1890 2,000,000 tons. In 1872 there were only 44 mines of which more than half produced less than 10,000 tons per annum. The Jharia Coalfields was opened in 1893. In 1900 production of coal rose to 6 million tons, in 1908 it became 12·75 million tons, of which 90 per cent. was raised in Bengal; 6½ million tons came from the Jharia Coalfields, the Raniganj Coalfields which had held the first position, now stood second with an output of 4 million tons. Production of coal on a sizeable scale in India therefore actually started after the Jharia Coalfield came into existence.

The conditions of the Coal Industry of those days may be realised from the following:—

> "During the last 20 years very considerable improvements have been introduced largely because deeper mines are more general especially in the Raniganj and Giridih Coalfields and to a lesser extent in the Jharia Coalfield. 20 years ago it was the exception to see a coal mine fitted with cages, now it is a general rule. The winding and pumping plant was of the most primitive sort as was also the general fit up of pit head arrangements. Underground, except where inclines were at work, tubs and tramways were practically absent and the coal had to be carried long distances underground on the heads of the coolies and native women to the pit bottom. All this has been completely changed. In many collieries in the Indian Coalfields can be seen winding and pumping plant of the most modern type, well built chimney stalks are dotted all over the Coalfields and Lancashire boilers provide the necessary steam power. The introduction of electricity as the driving power underground, it is pleasant to note, is also receiving attention from some of our coal companies." (W. Miller, Presidential Address, MGMI transactions, Volume III, Part 1, 1908).

2. The conditions of mining in the late 19th century have been described by another expert in the following terms:—

> "When I arrived in India over 20 years ago, among other fresh impressions, I was struck with the shallowness of the seams, their number and closeness to each other as compared to that of Home Mining. At that time 300 ft. was looked upon as a considerable depth. In some cases the old fashioned Gin was still in use while it showed signs of having previously been extensively used. I was specially impressed too with the smallness of pillars that generally prevailed in the first working and especially of shaft pillars which seemed to me quite inadequate. Extensive areas have been lost by thrust or by fire in the absence of adequate provision of isolation.
>
> Quarrying was a favourite form of work. This generally is a most ruinous system for a colliery causing as it does constant and heavy inlets of water entailing permanent extra cost for pumping as long as the colliery or property lasts. Evidence of this can be seen in long lines of quarries along the outcrop of valuable seams." (S. Heslop—Presidential Address—MGMI Transactions Volume V, Part I, 1910).

3. There was coal rush in 1907 and 1908 which has been described as follows:—

> "There were about 50 Companies with an aggregated capital of 283 lakhs started in the official year ending March, 1908, or an average of about one in every week, the record being attained in February of that year when some 14 Companies were registered, or one every other day.
>
> The previous year saw an average of about one nearly every fortnight, while prior to that, it had not reached an average of one a year in the whole history of mining and Joint Stock Companies. The demand had exceeded the supply. There was a coal famine in the land, and anything that was black seemed to sell as long as it would burn. Old abandoned places were re-opened and new places started, often regardless of quality. The prices for properties and establishment of new Companies assumed proportions something of the nature of a panic, or something like that of the gold boom of Chota Nagpur some years ago; ond so eager were the public to get in, and so afraid were they of being left out of these golden opportunities as they believed them to be, that the floating of a Coal Company became quite the easiest thing in the world. This sudden and enormous increase of coal Companies with the capital invested received, however, a heavy set back over a year ago, when a sharp decline of demand and prices set in, with a resulting slump in shares, which speculators became as anxious to get rid of as they had been to take up. Many of these new concerns were floated in enormous capitals, out of all proportion to their size, with-in

many cases too little working capital left—after the high prices demanded for them had been paid—to develop and keep them going, or to venture on deep sinkings, which, with the lesser demand, it had become all the more necessary to do for the better class of coal. It was, in fact, impossible for most of these newer, concerns to compete and hold their own with the older, well-established Companies with strong financial position, large properties, and good coal, with the result that many were closed down or considerably restricted. In many cases, most of the profits made in these good times were paid away in dividends, the excellent opportunity of building up and strengthening the concerns against a rainy day being lost. The commercial paper "Capital", a few months ago, gave a comparative statement of prices of some 22 Companies compared with a year before, showing a shrinkage of value on them alone of nearly five crores of rupees. Since that time, fortunately for the investor, a change for the better has again set in. Coal prices have improved, and the industry is in a more flourishing condition". (M.G.M.I. Transactions Volume V, Part I).

4. The management/labour relations and Labour Welfare Facilities etc. have been described as follows:—

"Our labour force was (and is yet) drawn from every tribe and caste from Calcutta to Peshawar.

*** *** ***

*** *** ***

As many as 20 languages and dialects were spoken in one mine.

The whole family, including children of all ages, entered the mine with their parents. The village miner came in with his wife and family approximately twice per week for a 24 hours shift. He came and went as he liked, went down and came up when he liked, worked, or smoked or slept as he felt inclined, and would even do a "double" shift if it suited him for market-day or Pujah pocket money. They took their food and their beds down with them, and I know of one case where two girl twins were born in the mine; I afterwards saw them married, and working in that same mine.

As Manager, I was everything from registrar to undertaker. When a child was born the mother was given a 'lying in' allowance of two rupees and the birth registered at the nearest Thana, and when the child was weaned she brought it to the Manager's office to be taken on to the Company's labour force; for which she was given a rupee for a boy and eight annas for a girl. All working women were given a sari and the men a dhoti at the principal Pujah times. All village workmen were given a 'hutting allowance' (either the material or cash for the seasonal renovation of their homes). All births, marriages, and funerals, were financed by the Company, and the Manager was responsible for the registeration of births and deaths at the nearest Thana

> At times of local scarcity when Bazar dealers cornered food and put up the prices, I was food 'controller' and had wagon loads railed to the Colliery direct from source, and distributed at cost price until the 'ring' was broken.
>
> Every Monday morning I held 'Court' and settled effectively all and every complaint lodged; from a difficult working place or an abusive sirdar, to the settlement of the dowry due from the groom of runaway couple, or the fine due from a wife snatcher." (R. Purdy—Presidential Speech at Annual Dinner 1937—MGMI Transactions—Volume XXXIII).

5. The early form of mining was to quarry the coal from outcrops. All they had to do was to dig for a few feet, remove the earth and rocks to get at the coal seam. As they proceeded, the seam went deeper and the stage was reached when it was no longer possible to dig and remove a comparatively large mass of earth, stone and rock to remove every ton of coal. At this stage coal had to be worked by inclines. An element of mechanisation became necessary. The gin came into existence and coal was drawn by a rope wound round a gin turned by women labourers. Later, steam haulages came into existence. When the distance of haulage became longer and the seams had to be worked deeper down, working by shafts and pits came into being and greater mechanisation of haulages etc. became necessary. To work a quarry did not require much capital or skill and technical knowledge. But to sink a deep shaft capital was required and mining became not a matter of merely cutting coal but a specialised technical process of engineering and several British Experts came over to the country.

6. The Zamindars who since the permanent settlement of 1793 held all rights over the coal bearing lands had little idea of the value of minerals underground. Entrepreneurs succeeded in getting, for the payment of a small salami and a recurring royalty, permanent leases of large tracts of land from the Rajas of Jharia, Panchkote, Burdwan and other estates. When the value of the properties became known the salamies increased, the lease periods became shorter and leased areas smaller. Lessees of the properties started parcelling out their rights to Sub-Lessees. There were further underleases by sub-lessees and the process went on, there being no regard to the shape, or minimum dimensions of properties. During the first boom years of 1907 and 1908 and the War years 1914 to 1918 and 1939 to 1945 there was demand for more and more coal and small capitalists must have entered the trade, acquired small properties on the fringes where seams of inferior quality outcropped which could be worked without much capital and at low cost and the number of small collieries grew.

7. In 1919 there were 640 collieries in Jharia and Raniganj. 587 were raising coal. Of these 288 were producing upto 1,000 tons a month and 213—1,000 to 5,000 tons a month. This was immediately after the first World War. In 1935 there were 397 collieries only of which only 385 were raising coal. There were 132 collieries raising upto 1,000 tons a month, 181 raising from 1,000 to 5,000 tons and 72 raising over 5,000 tons. This clearly was a period of depression for this industry as for several others.

8. From 1936 onwards there has been a gradual increase in the number of collieries in Bengal and Bihar as follows:—

STATEMENT I

Year	Number	Output
1936	424	18·69
1937	505	20·37
1938	546	23·11
1939	508	22·38
1940	483	23·79
1941	502	23·72
1942	630	23·56
1943	667	20·27
1944	738	21·15
1945	810	23·88
1946	804	23·25
1947	832	24·96
1948	838	24·47
1949	820	26·14
1950	806	26·4
1951	804	28·1
1952	785	29·5
1953	774	29·1
1954	747	29·6
1955	734	30·6

सत्यमेव जयते

In 1941 there were 502 collieries producing 23·75 million tons. In 1945 there were 810 collieries producing 23·88 million tons. The increase in the number of collieries did not however contribute to increase in production. The position of collieries in output groups was as follows:—

STATEMENT II

1945

Monthly production.	Collieries	Output(million tons)
Number of Collieries producing below 1,000 tons of coal	428	1·68
1,000—5,000 tons	242	6·60
Above 5,000 tons	96	15·60
	*766	23·88

Out of 810 probably 766* were in production.

9. Since 1950, however, there has been a reduction in the number of collieries. This is because of the control in the opening of new collieries and the ban on opening new mines producing coking coal and the closure of collieries due to exhaustion of the coal seams or other causes. There is likely to be a further reduction due to stricter control by the Coal Board on the opening of new mines.

The present position

10. In 1955 there were 734 collieries in production in Bengal and Bihar and the total output was 30·6 million tons.

The distribution according to output was as follows:—

STATEMENT III

Monthly production	No. of Collieries	Output (million tons)
Below 1000 tons	309	1·3
1000—5000 tons	276	7·5
5000 tons and above	149	21·8

सत्यमेव जयते

STATEMENT IV

PRODUCTION(000 *Tons*)

Monthly Production	Number of Collieries	Selected A.	Sel. B.	Gr. I.	Gr. II	Gr. IIIA.	Gr. IIIB.	TOTAL
0 — 600 tons	259	10784	38307	66507	190266	140107	351382	797353
600 — 2500 tons	236	75258	544159	948192	2046074	271670	309063	4194416
2500 — 5000 tons	90	116195	1321668	823342	1347011	156449	61448	3826113
5000 — 10000 tons	81	911571	2826331	1329145	895583	46068	60225	6068923
10000 — 20000 tons	49	2716948	3538055	685142	846321	41498	49922	7877922
20000 tons and above.	19	3245855	1961148	2526935	97246	..	29015	7860199
	734	7076647	10229668	6379263	5422501	655792	861055	30624926

11. In the Coalfields of Bengal and Bihar to-day we find some large and modern mines where coal is cut by machines, drawn by conveyors and locomotives and where as much of the work as is possible is mechanised. The surface arrangements are also mechanised in that the coal moves from the pit tops by conveyors. But for want of open wagons most of the loading has to be done by manual labour. One of the mines has devised a system of mechanical loading of even covered wagons. These mines employ a large labour force, have good workshop facilities, good labour colonies and staff quarters and other amenities. They generally produce above two lakh tons per annum. In such mines there is a senior manager. Below him there are qualified assistant managers and above him is a technically qualified Agent and Chief Mining Engineer or General Manager. In the mines producing small quantities of coal from quarries, machinery is totally absent, except perhaps a few tubs and some lengths of rail. The tubs are pushed by men or women. The coal is cut and loaded in baskets and carried on head-loads over heights upto 30 or 40 feet on inclined footpaths and loaded into tubs, into railway wagons or lorries where the siding is far away. There are few amenities to labour. The Manager is a person with a sardar's certificate and his technical knowledge of mining is very small. Between the few highly mechanised mines and the small primitive mines come a number of medium sized or large collieries with varying degrees of mechanisation, efficiency and labour amenities.

12. The Jharia Coalfield is the main source of the country's reserves of coking coal. Coking coal is a coal of low volatile, moisture, phosphorous and sulphur content which has the property of caking or agglutinating when heated, and which can produce hard coke. Hard coke is essential for reduction of iron ore for the manufacture of pig iron and steel as this process of reduction is by far the cheapest known process. Coking coal also occurs to a limited extent in a part of the Raniganj field, and the Bokaro and Giridih areas. There are no other known reserves of coking coal. In Jharia the coal occurs in a number of seams, varying in thickness, upto 50 ft. There are 20 to 25 thick and thin seams occurring almost continuously all over the area. Within a comparatively small area, nature has stored in layer upon layer a vast quantity of the energy basis for industrial purposes; but due to the fact that in the past the demand was not large and the reserves were assumed as almost inexhaustible we have not taken enough care to exploit it properly. The lack of a firm policy of conservation has been largely responsible for wasteful and even dangerous methods of mining. The better seams have been subject to the strain much more than the seams of inferior coal, with the result that today when we stand on the threshold of large industrial expansion, there are fears that our reserves of good coking coal may be exhausted before other forms of energy, particularly atomic energy, or other methods of reduction of iron ore become available or practicable.

Leases, Intermediaries and Royalties

13. The mineral rights in British India of the past were vested in the Government, except in the permanently settled areas of Bengal and Bihar which contain by far the largest known deposits of coal in India. In these areas the rights remained with the

Zamindars, who enjoyed the power to grant mining leases. Mining leases in the Jharia, Raniganj, Bokaro and Karanpura areas were granted by the Rajahs of the Burdwan, Jharia, Panchkote, Nowagarh, Kashimbazar and Ramgarh. The terms of the leases and the periods varied. Some were in perpetuity, some were for 999 years but a few were for shorter periods. The Kashim Bazaz Estate used to give leases only for first working and for short periods. By 1920 most of the proved coal bearing lands had been given on lease. In Jharia, most of the coal land had been leased by 1896 within a short period of the discovery of coal in the region and within 20 years more than half the area was worked by sub-leases and underleases. There were instances of a number of middlemen between the Zamindar and the producer. By the continuance of the process of transfer of rights and shares of rights a whole range of intermediaries was created.

14. The salami or the consideration money paid for transfer of rights to work the mineral varied according to the situation which existed at the time of the transfer. Where a high salami was paid the rate of royalty would be low. The salami was usually levied at a rate of Rs. 10 to 30 and even more in some cases per bigha of coal bearing land and the royalty varied from 4 as. to 8 as. per ton of coal raised. The system of salami continued until it was made illegal under the Mineral Concession Rules.

Production and methods of production

15. The Coalfields of Bengal and Bihar produce not only the bulk of the Country's production but also the best coals in India. They contain the entire reserves of coal considered suitable for metallurgical purposes, the best gas coals and best coals for the generation of steam.

The method of coal working most invariably adopted underground is the bord and pillar method. The long wall working is followed in some collieries. Horizon mining which is followed in many foreign countries now-a-days is however unknown in collieries in India because except in rare cases the seams are almost flat. Quarry working by manual labour is followed in several areas; there are also the large mechanised quarries of the State Collieries but even these are only partially mechanised.

16. The Bord and pillar method is quite suited to Indian conditions if it is done, properly, scientifically and on a well planned basis. The pillars should be of adequate size, the extraction in the first working, *i.e.*, the process of driving galleries should not be high, the galleries should be of prescribed dimensions and comparatively small in relation to the pillars of coal. But there are workings (mostly formed before 1939) where galleries have been driven too high and too wide due to which the stability underground is disturbed, when depillaring is commenced. In thick seams the extraction of the coal is difficult unless stabilisation methods like stowing are adopted and even then losses in extraction are inevitable. In the collieries in Jharia where thick seams are worked and in several areas like Jambad and Kajora in Raniganj stowing has become a matter of urgency. It is estimated that at present about 70 per cent. of the coal production in Bengal and Bihar comes from depillaring and

only 30 per cent. from development. This is not considered to be a satisfactory position, and it is stated that the percentage of production by development should be a little more.

17. It has been observed that when prices are steady and the demand is also steady proper mining methods are followed. But when a boom occurs like those that happened in 1908 or in 1914-18 or 1942 and there is increased demand for coal, sound methods of mining are not strictly followed and the average quality of coal also deteriorates. During periods of depression, also, methods of mining coal at a cheap cost are perforce adopted and they are by no means the proper methods. It is when the prices remain steady and when there is a promise that they may not fluctuate and when production is required to be maintained or increased steadily that conditions for proper mining will be created. Such conditions exist now because of the price control and the planned increase required in production.

Labour

18. Colliery labour has been drawn from a very wide field and from different types. It has never been settled labour. Agriculture has been and remains their first love. As in every part of the world no one wants to toil in the bowels of the earth cutting coal when and if he can earn his livelihood on the surface. And coal mining is a hazardous job. There have been till perhaps 1946 or 1947 complaints of a chronic shortage of labour, absenteeism over long periods and various other difficulties. But in recent times labour has been better organised. That is not to say that all is well. The conditions of labour still need improvement all-round.

19. During the War years from 1942, the wages of labour began to rise. There was an acute shortage of labour in the mines because the demand had increased and because mining labour had found more lucrative employment on the surface under Army Contractors. There were also labour disputes and difficulties and the demand from labour organisations for a square deal for the miners were getting more forcible and could no longer be ignored or brushed aside.

A Conciliation Board was set up by Government to come to a decision on these questions. This Board made its award in 1947, the salient points of which are follows:—

(i) A 50 per cent. increase in the 1939 basic wages of miner, trollyman and wagon loader.

(ii) A dearness allowance of 150 per cent. of 1939 basic wages for all categories, with a minimum of annas eight per day.

(iii) Extra basic rates for lead and lift.

(iv) A bonus equal to four months' basic pay.

(v) 14 days' leave with pay for monthly paid staff, and 7 days for others.

(vi) Compulsory Provident Fund.

(vii) Compensation for forced idleness.

(viii) Railway fare to go home on leave.

As a result the adult male time-rated worker would receive a minimum wage of 8 annas per day basic plus 12 annas dearness allowance. A woman worker received a minimum basic wage of 5 annas per day plus 0-7-6 as dearness allowance. In addition they used to get ¼ seer of free rice and a cash bonus for daily attendance, ranging from 3 annas 6 pies to six annas six pies, a day. Though there have been rumblings and disputes here and there, this award, together with the controlled prices of coal, has stabilised the position of colliery labour.

The question of further revision of wages and other concessions to colliery labour has for the past 2 years been before a Tribunal and the Award of the Tribunal has been published in May, 1956. This has given a substantial increase in the wages of certain categories of labour and the Coal Industry has agreed to implement this award.

According to this award the minimum wage of a male unskilled worker has been fixed at Rs. 0-15-0 basic per day, with 150 per cent. dearness allowance. The cash and food grain concession have been abolished and rent is deducted for those provided with quarters. The tub-rates of a pick-miner have been fixed at Rs. 1-3-0 basic for a 36 cu. ft. tub. Underground allowance has been given at the rate of 12½ per cent. of the basic rate for those earning a basic salary of Rs. 72 per month or less. Time-rated workers have been divided into 10 categories and the minimum for each category has been fixed. Pay scales have been introduced for clerical and other staff.

Transport and its effect on Production

20. Mr. Treharnee Rhees reported in 1919 that the regular supply of sufficient wagons was of considerable importance to the coal industry. The number of wagons supplied to the collieries in the Jharia and Raniganj Coalfield were totally inadequate and there was loss of coal from this cause. He added "Coal being so largely the foundation of the future industrial welfare of this country it is imperative that proper supplies of railway wagons for coal traffic should be provided without delay, for until this is done much of the waste that is now taking place on the surface of the collieries cannot be prevented."

21. The Coalfields Committee 1920 also stressed this point. They said:—

> "It is idle to expect that improvements will be brought about until this outstanding defect of inadequate transport is radically, and permanently rectified. The owner of a middle sized colliery cannot be expected to raise capital for instance for electrification where the bulk of the coal cannot be moved for months."

* * * * * * * * *

* * * * * * * * *

> "The general adoption of screening plants would diminish waste and among other advantages would have the effect of freeing a certain amount of surface labour though we do not consider it would have an appreciable effect on the labour available for underground work. The whole question is, however, largely dependent upon a constant and ample supply of wagons."

The Committee felt that " a steady and sufficient supply of wagons with the requisite facilities for moving them is the most urgent need of the industry". And, it remains so even to this day.

22. The Indian Coalfields Committee dealing with this question remarked:

> "We see no prospect of the present Railway system being in a position to meet the traffic without a complete and thorough overhaul; in fact the present Railway system is becoming a milestone round the neck of the country. We would, therefore, urge Government to appoint a high powered Committee forthwith to go into the question of transport and to plan for the movement of this coal and other traffic; otherwise the country's efforts towards increased industrialisation will find themselves strangulated."
>
> "It has been brought to our notice that the installation of mechanical loading plants has been discouraged on account of the seasonal inability of the Railways to supply the necessary number of open wagons which are essential to these plants."

23. The Working Party of the Coal Industry was mild in its remarks on the subject, when according to them, they had been flooded with requests to bring to the notice of the Government of India the inadequate supply of wagons for coal loading. They said, "The performance of the Railways is commendable. Possibilities of further improvement in this direction should be explored."

24. We have been informed that the problem of shortage of wagons of the proper type and difficulties of movement remain as bad as ever. Coal is a commodity which cannot be stored in large quantities either by the producer or by the consumer. The quantities to be kept in stock by the producer are limited by his financial capacity, by the nature of the coal, which may be liable to spontaneous combustion in stacks, and other factors. The consumers in large cities will be faced permanently with the problem of storage space. Fresh mined coal has qualities which tend to deteriorate to some extent in stock. Hence for the economy and efficiency of the coal trade as well as the coal consuming trades it would be ideal if the supplies flow in a steady stream from the coalfields to the consumers. This, however, appears to have been impossible till now.

During the course of our investigations we have been informed that the production can be stepped up in the existing collieries if adequate and regular transport is provided. The stocks of coal have been increasing year after year and on 31st December 1955 the stocks stood at 3·6 million tons. During the monsoon period there is a fall in production of coal and there is also an increased availability of transport. In July and August 1956, the transport position had improved and the accumulation of stock at pit head had been reduced. But there is no guarantee that the transport will be available at this level over continuous and long periods. The carrying of large stocks and locking up of finance affects production and a colliery having a heavy stock will reduce its output. The production of lower grades of coal can be stepped up and these coals can be utilised for soft coke production and the manufacture of bricks. The demand of coal for these purposes is large and can be increased. But the planning of transport and the creation of an adequate transport capacity will be an essential pre-requisite.

Summary

A large number of small collieries is a noticeable feature of the Bengal and Bihar coalfields which produce the bulk of India's coal production. The number of collieries has fluctuated in the past; the number is progressively getting reduced since 1950. The mineral rights in the permanently settled areas belonged to the landlords who gave leases and by a process of subleasing of various lessees-interests a class of intermediaries who collect a royalty from the producer of coal has been created. Labour position has been stabilised since the award of the Conciliation Board in 1947. The Industrial Tribunal for coal has now given a fresh award. But the conditions under which Mine Labour live and work require further improvement. The need for adequate transport for coal is of paramount importance.

सत्यमेव जयते

CHAPTER III

THE BACKGROUND TO THE PROBLEM OF AMALGAMATION AND THE APPOINTMENT OF THIS COMMITTEE

The 1919 *Report and the* 1920 *Committee.*

1. It was perhaps during the first boom years of the Indian Coal Industry in 1907-1908 that the number of collieries working small and irregular areas increased. It appears that some of the leases of the collieries in the Tisra and Jeenagora mouzas date from as far back as 1901. Mr. Treharnee Rhees, who made a study of the Jharia and Raniganj coalfields reported *inter alia* as follows in 1919:—

> "It has further come to my notice that in the case of large tracts of coal property, the areas let off for working by the landlords have not been so arranged as to conduce to the economical working of the estate as a whole but rather with the object of receiving as much as possible by way of "Salamis" or sums of money paid down as a consideration for granting a lease.
>
> This has led, especially in the case of the smaller takings near the outcrop, to the areas worked being in a number of instances of such small dimensions and fantastic shapes that it is quite impossible to work the coal satisfactorily."

Mr. Rhees felt that as a consequence pillars near the outcrops were of dangerously small dimensions, roof had caved in and the surface damaged, workings had become waterlogged, encroachments had taken place and under-ground workings connected up.

2. The Coalfield Committee of 1920 which examined various suggestions made by Mr. Rhees, stated that they had found instances in which areas had been let out in a number of minute plots, but the middleman rather than the superior landlords had been responsible for the worst cases. They called attention to the fact that the major part of the known coal bearing land in the Raniganj and Jharia fields had already been leased out. Any authority controlling unleased areas would not be able to remedy existing evils to any considerable extent. They recommended the appointment of a Controlling Authority to control new leases and to prevent excessive sub-divisions which will lead to inefficient and wasteful working. Every intending lessor of coal bearing land of less than 100 bighas should be required to refer first to the Coal Conservation Department. If this Department objected, the matter should go to the Controlling Authority. The Controlling Authority should also have power to bring lessors and lessees of neighbouring mouzas to terms in order to avoid the loss of coal frequently resulting from irregular boundaries and as far as possible rectangular boundary lines should be provided. These recommendations were not implemented.

The views of the Coal Mining Committee 1937

3. The next authoritative expression on the subject comes from the Coal Mining Committee which reported in 1937. They referred to the coal properties in Tisra, Kujama and Jinagora and said that the properties had been leased out in small strips involving great waste of coal in barriers, increasing the danger of fire spreading from one property to another and generally making safe and economical working impracticable. In such cases a statutory authority should be empowered to arrange voluntary amalgamation, if possible, and proceed to compulsory amalgamation if the owners did not come to terms. They stressed mainly the loss of coal in barriers and added "some of these properties cannot even afford to pump and during the rains when dip workings are flooded output can only be maintained by robbing pillars and widening galleries."

4. The Tisra area has been a standing example of fragmented coal properties with all its attendant evils for about 50 years. This was referred to Mr. J. T. Marshall, Coal Superintendent, State Railway, in his evidence before the Coalfield Committee 1920 as follows:—

> "3000 bighas are divided up amongst 22 separate collieries some of which are under 30 bighas in area. The working of areas of this description is, to say the least, uneconomical."

In spite of the passage of years, and progress all round when the laissez faire concept has been completely replaced by the socialistic pattern, the Tisra area remains an example of the bad effects of fragmentation of collieries.

सत्यमेव जयते

The Indian Coalfields Committee

5. The Indian Coalfields Committee of 1946 went into this question in some detail. From the year 1936 to 1945 the total number of collieries had increased by 386 but the number of leases granted was only 63 in two big estates. They expected that the total number of new leases would have been less than half the increase in the number of mines and concluded that the other half must have come from subleasing and under-leasing or by partition.

In 1919 the number of collieries was 640, there was a gradual reduction during the depression period from 1930, and it came down to 397 in 1935. The real reason for the increase in the number of collieries from 1936 to 1946 was not entirely the subleasing of larger properties into smaller ones during this period. The mischief had been done long ago. During the days of depression many mines had closed down. When production booms started, these were reopened by the original owners or by persons who had taken over from them on payment of a salami or a price. These together with the new mines opened during the period, contributed to the large increase in the number of mines. To some extent, there would also have been fragmentation of larger plots.

Thus the increase in the number of collieries from 1936 to 1946 has been due to the following factors:—

(i) New mines opened during the period.
(ii) Reopening of closed mines.
(iii) Fragmentation of larger properties.

6. In the opinion of the Committee "small coal bearing areas cannot be worked economically and systematically from the point of sound mining practices." They added:

> "Defective mining methods may not necessarily be uneconomic from the strictly limited point of view of the mine owner; if his concern is for a quick return rather than the development of the property for maximum eventual extraction defective mining methods can be very paying indeed. But if an area is worked in a manner that would prevent maximum extraction either within that area itself or in an adjoining mine, the country's interests as a whole are definitely prejudiced...... The economics of mine working should therefore be looked at also from the point of view of national interest and if this is done economic working and systematic working would be found to be indistinguishable."

The Committee pointed out that unsound mining was not restricted to small mines. Large well equipped mines had also resorted to mining methods detrimental to the country's interests. In the latter case it was possible to control and correct. In the former, however, even in the best circumstances the inherent difficulties to proper mining could not be overcome.

7. The technical disadvantages of working small mines were listed before the Committee as follows:—

(i) Loss of coal in barriers.
(ii) Limited capital outlay enables working of coal only at shallow depths. Within the limiting size of the holdings, deep mining cannot be done properly. Lower seams are not exploited and are thus lost to the country.
(iii) Due to the desire for quick return on capital, various methods are adopted *viz.* high rate of extraction in first working and pillar robbing.
(iv) When fires are caused, the mines are abandoned leaving a potential danger to all neighbouring mines.
(v) Technical inability to deal with faulted or difficult areas.

From the economic aspect it had been mentioned that the capital invested in each of the small collieries was insufficient for development on modern lines, but in the aggregate it would be more than enough for a central scheme. In times of depression these are forced to cut prices, create cut throat competition or go out of production. They do not have the means to engage experienced technical personnel and give reasonable amenities and facilities to labour.

8. The other side of the picture presented to them was that it was the depth and thickness of the seams which made a colliery economic or otherwise; that small holdings need not necessarily be uneconomic and the loss of coal in barriers was not more than the loss in panels in big mines, that coal lost in fires is less in smaller collieries than in the larger ones and that even large collieries with large capital cannot sometimes produce proportionately as much as some of the smaller collieries with small capital. The theory was also brought out that the fragmentation of large properties was the best means of increasing overall output.

9. After considering the conflicting views on the question, the Committee came to the conclusion that small mines with small capital cannot do proper mining and that in practice the working methods by small collieries generally left much to be desired. The loss of coal in barriers was not an argument which impressed the Committee. But loss occurred in depillaring in small areas and in water-logged dip workings. A small holding working a deep seam was economically impossible and the deeper coal cannot be won unless contiguous colliery holdings were amalgamated.

They also remarked:—

> "It is a half truth in this context to say that a thick seam lying at a shallow depth can be worked economically by a small holding; the fact is that such a holding can be worked more systematically and economically if amalgamated with an adjoining one. To argue that the small colliery plays the same role as a cottage industry betrays an imperfect undertaking of the meaning of the term. Labour conditions in the small collieries compare unfavourably with those of larger units. In this matter as in comparatively poorer technical assistance it is finance that acts as a limitation."

10. The Committee recommended that bearing in mind the factors that determine the economic nature or otherwise of a holding, it would be necessary to devise a lay out of an area which would permit of exploitation to the best advantage. The opinions expressed before the Committee were that

(i) One bigha is necessary for each foot of depth of the coal seam.

(ii) 500 bighas and output of 10,000 tons a month should be the minimum.

The Committee suggested that all factors, *viz.*, shape and size of a holding, the depths at which seams occur, their thickness and inclinations, the existence of any known dangers, Geological features, and neighbouring colliery properties should be taken into consideration in deciding whether a colliery should exist as a separate entity or not. They stated also that voluntary amalgamation may not be effected on an appropriate scale and that the only solution was for Government to insist on amalgamation when it appeared that the separate existence of two or more collieries was harmful in a broad sense. They expected that financial arrangements between the parties would be easy when amalgamation become inevitable. But in cases where any of the parties were obstructive, Government should step in, acquire the properties and operate them after necessary reorganisation. "This is the measure of importance", they said, "we attach to the need for eradicating harmful fragmentation where it exists." For the future, they recommended that fragmentation should be avoided by controlling leases and to remedy the evils of the past they suggested that Government should insist on amalgamation and adjustment of boundaries, this being preceded by a detailed field survey of condtions.

11. We have dealt at length with the report of the Indian Coalfields Committee on this matter. It has been alleged by several persons that the previous Committee did not go into the details of the position of small collieries and that previous recommendations and observations were made on the basis of insufficient data and very superficial considerations. While this may be true of some of the reports, it is clear that the Indian Coalfields Committee examined this matter quite thoroughly before making a definite recommendation that amalgamation of small collieries was generally necessary but that each case should be carefully examined from various aspects.

The Working Party for the Coal Industry 1951.

12. This body consisting of representatives of the Coal Industry, labour and Government also reported on this question. They stated that the vesting of mineral rights in private parties had led to fragmentation and presented various difficulties for amalgamation of such fragmented properties. They were convinced that fragmentation of properties had occurred in a large scale particularly in the Jharia Area.

In the replies to this body the Indian Mining Federation were agreed on the need for amalgamation of small collieries but desired that it should be on a voluntary basis. The Indian Colliery Owners' Association had stated that "Where mines, due to the smallness of their leasehold area are uneconomic to work they should be merged with neighbouring collieries for better and economic working." The Indian Mining Association had expressed the view that small colliery units cannot be worked economically and systematically from the point of view of sound mining practice. The Working Party recommended that legislation should be carried through to permit Government to amalgamate such colliery units, where according to the opinion of the Coal Board, it was necessary for the country's interest.

Discussions with the Industry 1952 *to* 1955.

13. In February 1952, the Coal Advisory Committee discussed the question of amalgamation of small collieries and the three mining Associations were asked to send their views. The Indian Mining Association stated that they represented mostly larger colliery units but were in agreement with the views presented by the Indian Coalfields Committee. The Indian Mining Federation suggested

the formation of a Statutory Arbitration Board to facilitate voluntary amalgamation of collieries. The Indian Colliery Owners' Association were of the opinion that voluntary amalgamation cannot be achieved unless some incentives were offered. Regarding compulsory amalgamation they expressed the view that though it could be achieved by force, it could not be achieved on agreed terms and on the basis of co-operation. They wanted Government to place before the industry concrete proposals, when they would submit alternative proposals or comments. Discussions between Government officials on the one side and the Industry on the other were held from time to time but no concrete results were achieved.

14. In March 1955, the Coal Board considered the loss of coal in barriers and methods of reducing such losses. As reliable figures were not available in regard to the actual quantities of coal left in barriers it was decided to set up a Committee to examine the question of loss of coal in barriers and other problems arising from the existence of small collieries, the working of thin seams etc. It was expected that the studies carried out by this Committee would be helpful in dealing with the question of amalgamation of small collieries though the loss of coal in barriers is only one of the considerations relating to the issue. Unfortunately that Committee has not been able to commence work.

15. During discussions held in May 1955 with representatives of the industry, the general view was expressed that further action regarding amalgamation should be postponed till the Committee mentioned above submitted its report.

It appeared that this would, in effect, put off the consideration of the question of amalgamation of small collieries for an indefinitely long period. The Second Five-Year plan demanded expansion of the production potential of the industry and this expansion should be achieved by systematic and scientific methods and without wastage of the reserves of good coal in the country. The consideration of this matter could not be held in abeyance any longer. The Coal Commissioner and Chairman, Coal Board, therefore, called a meeting of representatives of the industry and at this meeting it was agreed by the representatives of the Associations that amalgamation of small collieries, where necessary in the national interest, into upto-date collieries capable of fulfilling the demand and attaining the standards of the Second Five-Year Plan should be taken in hand. There was also agreement regarding the setting-up of a Committee immediately to study the position in the Jharia and Raniganj Coalfields and work out definite proposals. The present Committee has been set up as a result of that agreement.

Summary

The existence of small and irregular collieries and the fact that in small areas scientific and planned mining may not be possible and that there is wastage of coal have been observed since 1919. Recommendations have been made that small collieries should be amalgamated by various Committees since 1919. This Committee has been appointed in 1955 to work out more definite proposals.

CHAPTER IV

EXPERIENCE IN FOREIGN COUNTRIES

1. Coal was mined in England, Austria, Belgium and other parts of Europe as far back as Tenth Century. In the Fourteenth Century it had importance not only as fuel for household use but also for use in certain industries. As early as the Sixteenth Century, coal from Newcastle was being exported to France. The impetus to the modern development of the coal mining industry was given by the application of coal to the smelting of iron in the early part of the Eighteenth Century and by the invention of the steam engine in 1769. In 1865, Mr. W. Stanley Jevons pointed out the need for conservation of coal. His thesis that cheap coal is one of the foundations of modern industrial life and that the conservation of coal reserves is necessary was not accepted at the time though later events showed that he was right. During the period from 1870 to the outbreak of the World War in 1914, coal mining had a rapid growth in many countries but the industry was beginning to struggle with certain problems, one of them being rapid opening of new mining districts in Great Britain where coal mining fared well under the regime of free competition and where fluctuations of prices created conflicts. Schemes after schemes were put forth from 1850 for regulation of the industry either by Government or by combination among employers. None of the schemes for amalgamation and control proposed before 1900 could be carried out. Similar schemes from 1900 to 1914 also met with similar lack of success. In Germany these problems led to the formation of great regional coal cartels of Ruhr, Aachen, Upper Silesia etc., the struggle of the Industry between 1879 and 1893 finally culminated in the formation of the Rhenish—Westphalian Syndicate.

Great Britain

सत्यमेव जयते

2. Events following the First World War created several problems in the coal industry in the principal coal producing countries in Europe. The United Kingdom, which was the most prominent of them, set up in 1919 a Commission, known as the Sankey Commission to enquire into the working of the Industry, particularly in the matter of labour, wages and allied problems. The Commission recommended *inter alia* unification of coal producing units. The atmosphere which prevailed at the time and the controversy which raged particularly in regard to the public ownership of minerals, nationalisation of mines etc. did not favour any action in regard to unification of collieries and the question of labour and wages was of greater importance. In 1926, the Royal Commission of the Coal Industry, the Samuel Commission, recommended as follows on the question of amalgamation:—

"Amalgamation of existing Mines.—The amalgamation of many of the present small units of production is both desirable and practicable. This may often be effected from within, but in many cases it will only take place if outside assistance is given. Any general measure of compulsory amalgamation, on arbitrary lines, would be mischievous; the action to be taken should be elastic and should enable each case to be treated individually....................Legislation should provide for a compulsory transfer of interests under existing leases where desirable amalgamations are prevented by the dissent of some of the parties or their unreasonable claims. Existing leases would not otherwise be affected."

3. As a result of these recommendations, the Mining Industry Act, 1926, was enacted, providing *inter-alia* for the following:—

(i) The owners of two or more undertaking may prepare and submit to the Board of Trade the amalgamation scheme.

(ii) When unwilling owners are to be absorbed in the scheme in the interest of more economical and efficient working, the willing owners may prepare a scheme for submission to the Board of Trade.

(iii) When the Board of Trade was satisfied that a *prima facie* case existed they would refer the matter to the Railway and Canal Commission.

(iv) The Railway and Canal Commission will, after hearing the objections, confirm, modify or reject any scheme.

(v) When accepted or confirmed by the Commission the scheme shall be binding on all parties.

(vi) The Board of Trade should when so requested by the owners, give assistance for the formulations of schemes.

4. The Mining Association was not in favour of any compulsion in regard to amalgamation. There were 17 amalgamations in 1928 and 9 in 1929 involving respectively 172 and 88 collieries. These were purely voluntary amalgamations. There was, however, considerable dissatisfaction at the slow progress in voluntary amalgamation and in 1930, the Coal Mines Act provided for the constitution of a Coal Mines Reorganisation Commission to promote and assist the amalgamation of undertakings, where such amalgamations appeared to the Commission, to be in the national interest. The Act empowered the Commission to require the owners to submit schemes of amalgamation in accordance with the Act of 1926 or themselves to prepare such schemes and to submit them to the Board of Trade. But schemes so drawn up will not be confirmed by the Railway and Canal Commission unless it was satisfied that. —

(a) it would be in the national interest,

(b) it will lower the cost of production,

(c) that it will not financially injure any of the undertakings, and

(d) the terms were fair and equitable to all parties concerned.

The Act also provided that the value of an undertaking shall be based on the value as between a willing buyer and a willing seller if the Act had not been passed.

5. Further events showed that this Act did not help very much in forcing the pace of amalgamations. It has been commented that the Commission had never had the powers necessary to force amalgamation on an unwilling and recalcitrant industry and that the powers under the Act providing for amalgamation could not succeed as they met continual resistance from the owners.

In the words of Professor Townshend-Rose—

> "The Reorganization Commission tried by various means to stimulate the industry to formulate voluntary amalgamation schemes, but without success. They worked under a considerable handicap since it was generally considered that their compulsory powers would prove to be ineffective. The Commission prepared a number of experimental schemes and contemplated a two-tier structure for the industry. Colliery undertakings would be amalgamated into units of optimum size by means of financial mergers ('total' amalgamations), and certain of the activities of these units would be controlled, in relation to wider areas, by loose forms of co-ordination ('partial' amalgamations). The only scheme which the Commission endeavoured to impose compulsorily was a partial amalgamation scheme affecting West Yourkshire. The Railway and Canal Commission declined to confirm the scheme, principally because it effected no amalgamation by fusion of companies and was therefore held not to be in accordance with the requirements of the 1926 Act."

The efforts of the Reorganisation Commission met with determined opposition from the colliery owners. It was alleged that the widespread uncertainty to which the activities of the Commission gave rise, adversely affected operations, and that valuable time and money, which could ill be spared were involved in dealing with the Commission's proposals. The Commission themselves felt that the system of private ownership of minerals stood in the way of effective reorganisation. In 1936 the Government asked the Commission to refrain from further action pending re-consideration of the whole matter.

In the words of Professor William Haynes—

> "The reports of the Coal Mines Reorganisation Commission expressed frustration in trying to get concerns to amalgamate. Defeated in its attempts to bring prosperity to the industry through willing schemes and voluntary amalgamation, the Conservative Government turned to more radical measures in the Coal Act of 1938."

6. This Act nationalised royalties on coal and vested powers in the Coal Commission as the authority in which mineral rights vested and the functions of the Coal Mines Reorganization Commission were also transferred to this Commission. Part II of the Act gave powers to the new Commission in regard to the reduction of the number of colliery undertakings and to draw up schemes of amalgamation but little could be done due to the outbreak of the War.

7. Despite the fact that various legislative measures intended to encourage amalgamation were considered to be inadequate and infructuous, it appears that a certain process of voluntary amalgamation was taking place in the coal mines of Great Britain.

In the words of Mr. Robert Foot—

> "A closer integration of the industry by voluntary amalgamation had taken place—until by 1938, 80 per cent. of the annual output was being produced by 130 undertakings—and the increase in the proportion of output cut by machinery—from 13 per cent. in 1920 to 19 per cent. in 1928 and the improvement in the plant for preparation of coal for the market was begining to show results."

8. Mr. Foot drew up in 1944 his Plan for coal giving 20 objectives to be aimed at and the formation of Central and District organisations. The first of these principles was the lofty one of national consciousness and is quoted below:—

> "That the industry should take a national conception of its responsibility to the country and should look upon the industry broadly as one family with branches in every coal producing area; each undertaking being independent and self-supporting under all normal conditions but all mutually intersted in the prosperity of the whole and organised to solve all its problems, financial, technical, commercial, within its own four walls."

Another of his principles was that the industry acting through a Central Board and District Board, should give every support and encouragement to the closer integration of the industry into a smaller number of units by voluntary agreements, compulsory amalgamations and absorptions. Elaborating this, Mr. Foot is reported to have said that, looked at in the abstract, there was no doubt at all that the industry could be more efficiently administered and managed if there were greater concentration of the units of production. Replying to the suggestions that had been made that all coal should be produced by 40 or 50 undertakings, he said that eventually it might come to that and that if each one of the undertakings were being well-managed in accordance with the right principles it might be a great improvement. He further expressed the importance of the human factor. He was of the opinion that to make amalgamation compulsory wholesale would do harm. It should be voluntary but if an undertaking failed to be efficient or to accept the decision of the Central Board or if an undertaking, because of its size and other handicaps, could not maintain a standard of efficiency, there should be compulsory amalgamation. He felt that a small undertaking which was well-managed and efficient was something of a tonic and refreshment to any great industry and harm would be done if a small undertaking were to be condemned and forcibly removed from its present owner, simply because it was small. Mr. Foot's Plan, was published in January, 1945, and had the support of the colliery owners.

9. In September, 1944, the Government set up a Committee of seven mining engineers called the Reid Committee to examine the technique of production from coalface to wagon and advise what

changes were necessary to bring the industry to a state of full technical efficiency. The report of this Committee was also published in 1945. This Committee pointed out that in Britain, private ownership of minerals had led to the construction of a number of ill-planned mines of inadequate capacity and widely dispersed ownership and this had resulted in lack of concentrated mining. In the Continent, State ownership of the minerals and highly concentrated system of coal ownership had resulted in more efficient exploitation of coal resources. The report stressed the fact that reorganization of the industry should be on the basis of coalfields and not of individual mines. It also pointed out that it was evident that the necessary technical changes could not be satisfactorily carried out as the industry was then organised and the conflicting interests of individual colliery companies needed to be merged into compact units of manageable size with full responsibility for developing the areas to which they were related. It was essential to have, in addition, an authority with adequate powers for ensuring that the necessary mergers were made for stimulating the preparation and execution of broad plans of reorganization and for conserving the country's coal resources.

10. After publication of this report, the Government's Declaration of Policy announced by the Minister for Fuel and Power in the House of Commons on 29th May, 1945 was as folows:—

"The Government consider that the working, treatment, and disposal of coal should continue to be conducted by private enterprise provided these are planned in accordance with the national need and conducted with the maximum efficiency.

The Government have decided that a Central Authority, appointed by the Minister of Fuel and Power and subject to his general directions, should be set up to insist that the necessary measures are taken and to provide such help and guidance as are useful.

The measures to which I refer centre upon the proper development and efficient conduct of operations in each coalfield, according to the best modern practice.

In so far as the grouping or amalgamating of collieries is necessary for this object, it will be carried through, voluntarily if possible, but otherwise by compulsion.

We do not propose amalgamation for amalgamation's sake, for in this diversified industry, where conditions vary widely, there are often to be found highly efficient undertakings which are sometimes not large. In such cases amalgamation would only be proposed if there were clear advantages to the nation and to the Industry.

The making and the carrying out of these plans will be undertaken by the Industry itself. The duty of the Central Authority will be to satisfy itself that the scope and the effect of the plans conform to the national requirements, and it will have powers of enforcement in reserve".

On the 25th July, 1945, the Labour Government was returned to office pledged to nationalisation of coal and the Coal Industry Nationalisation Act was passed subsequently.

11. We have dealt at length with the various developments in Great Britain in regard to the question of amalgamation. So far as we know, this is probably the only country where the question of amalgamation of colliery units assumed considerable importance and attempts were made to tackle it by various legislative measures. All these legislative measures aimed at effecting amalgamation without in any way disturbing the existing owners and affecting their financial interests and their rights to property. For that reason the measures ultimately proved to be inadequate. Immediately after the nationalisation of mineral rights and the appointment of a Coal Commission the upheaval caused by the Second World War rendered it impossible to make any progress regarding amalgamations. ,Various suggestions were made in the post War period to re-organize the industry with its existing structure. The solution took the form of nationalisation of the coal industry of Great Britain.

12. In 1924 there were 1400 coal undertakings in the United Kingdom owning 2481 collieries producing coal as the principal mineral and 97 producing coal as subsidiary mineral. In 1936 there were 2080 mines in active exploitation. In 1947, the National Coal Board became the owner of 1500 mines which had belonged to 800 private enterprises. 400 small mines employing less than 30 persons each also came under the Board but they were permitted to be worked by the owners under licenses granted by the Board.

Germany

13. A reference has already been made to the establishment in 1890 of the Rhenish Westphalian Coal Syndicate. In Germany Coal and Lignite mining have been subject to the forces of horizontal integration, which have shaped the whole of the industrial economy of the country. The Ruhr District was opened in May 1847. The amalgamation of two or more collieries to one production unit, for modernisation, increasing technical capacity and the formation of combined mines, was going on. During the period from 1920 to 1938, the progress in amalgamation was notable, the number of mines amalgamated was 67 during the period 1920-1938. By this process, production capacities of individual mines in Ruhr District have been continuously increased and the capacity has developed upto 8000 tons of daily output. Interconnected operations between mines and consumer industries and combination of mines for the purpose of coal preparation, coking, briquetting etc. also accompanied these developments. The number of working faces were reduced. In 1926 there were 16,000 working faces. In 1955 it was reduced to 2500. The coal mines of the Saar are owned by the German State itself. In Aachen the entire output is contributed by four colliery undertakings. In other parts of Germany also, the number of undertakings is small and the production per unit is comparatively high.

France.

14. In France reconstruction required immediately after the First World War must have made it possible to plan large units of production. It is stated that in 1913 France produced 43:4 million tons

of coal but owing to the damaged condition of many of the mines in Nord and Pas De Calais Districts, the production came down to very low figures in 1920. By reconstruction and re-organisation the production reached the pre-war level in 1925. In 1936 the position was that all the mining concessions in France were worked out by 100 colliery undertakings controlled by over 140 mining proprietors. All the output of Nord and Pas De Calais was raised by 26 colliery undertakings, of which 11 mines contributed over nine-tenths of the total output of the districts. Two undertakings supplied the entire output of Lorraine. A few small collieries occurred in the Centre and Midi.

During the Second World War, Nord and Pas De Calais areas, which then accounted for 2/3rd of the total output of France, became completely inactive in 1940. The production was resumed in November 1940 under German occupation. After the liberation of France, the Government considered that only the State was in a position to make the coal mining industry effectively contribute to the economic revival of France in accordance with a general plan. The State alone was capable, it was felt, of enforcing a production programme which included regrouping of pits on the technical side, of settling disputes in the social field and of providing the resources which the re-equipment of mines made necessary on the financial side. By an order on 13-12-1944, the coal fields of Nord and Pas De Calais were nationalised and from 18-5-1946 all coal mines in France were nationalised.

Netherlands

15. In the Netherlands, the position in 1936 was that 2/3rd of the national output was controlled by 4 State Mines which were operated as profit seeking enterprises in the interest of the National Treasury. There were only 4 private collieries left. Although comparatively small, the Netherlands Coal Industry is highly concentrated. The question of amalgamation of small collieries does not appear to have arisen there.

Belgium

16. In 1936 there were 174 active collieries in Belgium with an average out-put of over 160,000 tons each. The collieries were also integrated financially by control and blocking of shares in coal undertakings by banks. During the German occupation, Belgium Coal Mining Industry suffered a fall in production and obsolescence of equipment. But this appears to have been made up during post-war reconstruction.

U.S.A.

17. In the United States there are large mines and small mines and no attempt by the State has been made to amalgamate them. But the small mines are generally owned by single families who raise the coal and sell it in nearby towns or villages. The aim in the States is to have units of production having large output.

Australia

18. In Australia, in the States of Victoria, New South Wales and Queensland there are several small mines. In some cases they exist in isolation. No attempt has been made by the States to amalgamate small collieries.

Summary

In most of the foreign countries, the collieries are large units. In U.K. the problem of amalgamation of colliery undertakings was tackled in various ways and by making statutory provisions; though some amalgamation took place, the objective aimed at could not be achieved. In Germany unification of mines has taken place voluntarily for the formation of units with large productions.

CHAPTER V

THE LAWS AFFECTING THE COAL INDUSTRY

The Mines Act and the Indian Coal Mines Regulations

1. The first laws relating to mining in India were introduced in 1901, when the Mines Act 1901 was passed. It related to submission of notices of opening mines, accidents, etc., prescribing minimum ages for boys and girls employed underground and made provisions for ambulances, management, supervision and matters relating to safety. This Act came into force on 22nd March 1901. In 1902 rules were framed under the Act. Subsequently this Act was amended and the scope of the Act was enlarged until the Indian Mines Act 1923 was enacted and came into force from 1st July, 1924. This act has subsequently been revised and the Mines Act 1952 is now in force. The Act provides for inspections of mines, issue of orders on collieries to take measures to guard against dangers, appointment of managers and other staff, health and safety in the mines, appointment of courts of enquiry, limitations of employment, leave with wages etc.

The Indian Coal Mines Regulations, framed under the Indian Mines Act, 1923 provide for submission of returns to the Chief Inspector of Mines, preparation and maintenance of plans, the qualifications of mine officials, the holding of examinations and the regulations regarding shafts, cages and winders, roads and working places in mines, the sizes of pillars, galleries etc. They authorise the Inspectors to order the mine owners to conform to the needs of safety. These regulations are comprehensive and are intended to so regulate the working that they are safe. These regulations have been added to and amended from time to time. They continue to be in force until revised regulations are framed under the Mines Act of 1952.

These regulations actually require the collieries to keep certain minimum dimensions of pillars. The sizes of galleries are limited. Precautions have to be taken against fires, flooding, crushing and explosions. Many of these provisions came into effect after the Indian Coal Mining Committee 1937 made certain recommendations. New temporary regulations have been promulgated in 1955 requiring collieries to take further precautionary steps to prevent fire, flooding etc. Ordinarily development of a mine in the pillar and stall works is comparatively safe. But when the process of depillaring starts, the safety is affected. If the development has been done properly and scientifically and if depillaring is done systematically and accompanied by protective measures like stowing, cogging etc. crushes and collapses may not occur. Carelessness in depillaring may well cost lives and cause significant loss of coal.

The Mines Act and Regulations are administered by the Department of Mines. The department is probably, the oldest of the organisations connected with Coal Mines and was in existence some time before the first Mines Act was enacted. It is headed by the Chief Inspector of Mines, assisted by other Inspecting Staff spread out all over the country. They inspect the collieries frequently, but adequate watch over the Mines, particularly the small Mines, is increasingly difficult. The Mines are too many and the Inspectors have been too few.

The Coal Mines (Conservation & Safety) Act and the Coal Board

2. In 1939, an Act known as the Coal Mines Safety (Stowing) Act was passed. This Act created a Coal Mines Stowing Board consisting of a Chairman, appointed by Government, the Chief Inspector of Mines in India and four members nominated by the three Mining Associations. The Board was financed by an excise duty on coal and utilised the funds for granting assistance to collieries to carry out stowing for safety in coal mines and other protective work. The Act empowered the Chief Inspector of Mines in India to issue orders on collieries requiring them to carry out stowing where stowing was necessary in the interest of safety.

In 1952 this Act was repealed and the Coal Mines (Conservation and Safety) Act was passed. Under this Act the Central Government was given general powers for effecting conservation of coal and for ensuring safety in coal mines and specific powers for issuing orders on collieries for stowing for safety and conservation and for coal washing. The powers of the Central Government could be delegated to Coal Board established under the Act. The Board would consist of a Chairman and other members, not exceeding six appointed by the Central Government. The members of the Board are all officials. This Board is financed from the proceeds of a cess on coal which forms a Coal Mines Safety and Conservation Fund and which is applied to grant assistance for stowing and other operations and research.

The Coal Mines (Conservation and Safety) Rules were published on 25th September, 1954. The rules confer on the Board powers to grade coal, to scrutinise applications for opening or reopening coal mines and seams and to prescribe conditions under which mines may be opened. No coal mine may be closed without due notice to the Board. The Central Government may, under the rules, modify the method of working of a mine and prohibit depillaring without stowing. The production of a coal mine may be limited and the sale of coking coal may be restricted to specified classes of consumers. The rules also prescribe the forms of assistance and the purposes for which assistance may be granted from the Coal Mines Safety and Conservation Fund.

The functions of the Coal Board are to encourage measures like stowing etc. being undertaken in collieries for safety and conservation. This the Board ensures by granting assistance. The Board can order a colliery to undertake stowing, washing and blending of coal for conservation. The opening of new collieries and of new seams in working collieries is controlled by the Board. No mine is permitted to be opened unless it conforms to the size and conditions prescribed in the Mineral Concession Rules and a plan of working is approved by the Board. After approving a plan of working, the Board should keep a watch to see whether the actual working follows the approved plan. A new seam is permitted to be opened only under conditions prescribed by the Board. Where depillaring, carried out without stowing, is not safe or where it is likely to result in wastage of coal, the Board can prohibit such depillaring. The production of coking coal is controlled by the Board. These powers have been vested in the Board only towards the end of 1954. The Estimates Committee of Parliament has commented that the Coal Board has not fulfilled its objectives. The Industry is of the opinion that the Coal Board is interfering too much with the opening of new mines and seams and depillaring and that stowing assistance is not adequate and that the control over the production of coking coal is not realistic. The absence of representatives of the Industry on the Coal Board has been criticised more than once. It should also be mentioned that the Coal Board has a limited field of activity in so far as mining is concerned and is small compared to other organisations connected with the Coal Industry.

The Colliery Control Order 1945 and the Coal Controller

3. Towards the end of 1944, the Colliery Control Order was passed under the Defence of India Rules to control the production and distribution of coal. This order, which has been amended from time to time is now in force under the Essential Supplies Act. The order provides for the taxation of the prices for various grades of coals, the commission payable to agents or middlemen, regulation of sales of coal and submission of returns to Government. The Central Government has powers to restrict the production of any grade of coal. No colliery or group of collieries which is worked as a single mining concern shall be sub-divided and worked in separate parts except with the previous permission of Government. This measure is intended to control the fragmentation of collieries. The distribution of wagons for movement of coal by rail, control of movements of coal by road, purchase of coal for Railways etc. is done by the organisation.

Under this order the grading of coal was done by the Coal Commissioner until July 1955, when the work was taken over by the Coal Board. The prices of coal are fixed by the Central Government. The present grades are as follows:—

I. *Low Volatile Coals*	*Ash content*
Selected A Grade	Up to 15%
Selected B Grade	More than 15% and not exceeding 17%
Grade I	More than 17% & not exceeding 20%
Grade II	More than 20% & not exceeding 24%
Grade IIIA	More than 24% & not exceeding 28%.
Grade IIIB	More than 28% upto 35%

II. *High Velatile Coals.*	*Ash and Moisture content.*
Selected A	upto 17·5%
Selected B	More than 17·5%, but not exceeding 19%
Grade I	More than 19% & not exceeding 24%
Grade II	More than 24% & not exceeding 28%

The pithead prices of coal of Bengal and Bihar are fixed according to grade and size. The size classification is Run-of-Mines (R.O.M.), steam, rubble and slack. Steam and rubble coal which do not contain any dust fetch a higher price—grade for grade—than R.O.M. slack and dust.

The coals of coalfields other than W. Bengal and Bihar are not graded. The pithead prices of coals in these fields are fixed by the Government of India after ascertaining costs of production and other factors.

The controlled price of coal is the price at the pithead. The price paid by the consumer will vary according to freight, handling charges etc.

The Colliery Control Order is administered by the Coal Controller (till recently the Coal Commissioner). One of the important functions is the allocation of wagons for transport of coal. The distribution of coal is by grades to consumers according to their class. Each class of consumer is allowed to use only that percentage of superior coal which is essential for his requirements and has to get part of his requirements in lower grade coal. This is because the consumer naturally prefers superior coal to inferior coal. But the country's reserves of superior coal are limited and of inferior coal large. Inferior coal is being produced and has to be used and may have to be used in increasing quantities for industrial purposes as well as for Railway locomotives. Wagons are allotted to collieries on a pro-rata basis according to the requirements of the orders on the collieries and the availabilities of wagons for each day as reported by the Railways. The day to day movement restrictions imposed by Railways, are taken into account in making the allocations. Where a consumer has temporarily a special difficulty for want of coal to run his plant, special allotments are made. From large collieries to large consumers, allotments are made in full rakes (train roads) or half rakes. These ensure quicker movement and quicker turn-round of wagons. The object of making this a responsibility of the Coal Controller and not the Railways is to ensure that the requirements of coal of the essential consumers are adequately met by an organisation which can link up producers with consumers rather than by the Railways, who have the overall problems of transport of goods to tackle.

The control of the price of coal and the quality of despatches is also the responsibility of this organisation. Inspectors of this Organisation draw check samples from collieries to see whether the quality conforms to the grade allotted to the colliery. This organisation is the main link between the Government and the producers and consumers of coal.

The Welfare, Rescue, Provident Fund and other Organisation

4. In 1947, the Coal Mines Labour Welfare Act was passed. This Act provided for the collection of an excise duty of coal to be credited to a Coal Mines Labour Housing and Welfare Fund, apportioned under two separate accounts, called the Housing Account and the General Welfare Account. The Welfare Fund is to be applied to the general welfare of labour in coal mines, including public health and maintenance of dispensaries, water supply, educational facilities, recreation, transport to and from work etc. The Board may themselves carry out schemes and may also make grants. The Housing Fund is to be utilised for building houses and for grant of money in aid to collieries to build houses for labour. The Rules under the Act prescribe the manner in which the fund may be applied. The Coal Mines Welfare Organisation has its office at Dhanbad under the Coal Mines Welfare Commissioner. He also administers the Coal Mines Pit Head Bath Rules 1946 and the Coal Mines Creche Rules 1946.

The Welfare Organisation has constructed more than 1600 two room tenements in township at Bhuli in the Jharia field and at Vijoynagar in the Raniganj field. Motor roads are made from Bhuli to Kasunda and Dhanbad. Arrangements have been made with the collieries for providing transport to the workers. Loans are granted to colliery owners for construction of houses for labour and subsidies amounting to 25 per cent of the costs of building two room tenements are given. The Fund has built two large, up-to-date and well equipped hospitals at Dhanbad and Asansol. The Dhanbad Hospital has 123 beds and the Asansol Hospital one hundred and sixty beds. These are to be expanded to accomodate 250 beds each. Regional hospitals with 18 beds each are maintained at Katras, Tisra, Chora and Searsole and T.B. Clinics are maintained at Tisra and Searsole. There are 28 maternity and child welfare centres. Anti-malaria measures have been undertaken on an extensive scale and about 200 sq. miles in Raniganj and Jharia have been covered. The Fund does not now provide educational facilities for miners' children, but proposals are under consideration. It has provided 15 miners' Institutes in Jharia and Raniganj and 20 welfare centres for women and children. 19 adult educational centres have also been opened in these fields.

The Coal Mines Rescue Committee is financed by a cess on coal and trains rescue workers in collieries. There are two rescue stations one in Jharia and the other in Raniganj where men are trained in rescue work. When serious accidents occur in mines or difficult conditions are encountered rescue teams are sent over to these mines armed with equipment and apparatus to go into dangerous areas and to rescue the affected workers.

The Coal Mines Provident Fund Act which came into effect in 1948 is administered by the Coal Mines Provident Fund Commissioner. Every labourer who has earned his quarterly bonus for three quarters in the year is entitled to be admitted to the benefits. The colliery owner has to make a contribution in respect of each of his workers who is entitled to be admitted to these benefits. Besides this the expenses of administration are also met by the owners of collieries.

The Coal Mines Bonus Scheme Act 1948 which makes it statutory to make payment of bonus etc. to labour is administered by Regional Labour Commissioner. Other legislation relating to labour in Coal Mines are:

(i) The Mines Maternity Benefit Act & Rules 1943.
(ii) Rules relating to payment of wages.
(iii) Bye Laws of the Jharia, Asansol and Hazaribagh Mines Boards of Health.

The Mines and Minerals Development and Regulation Act 1948.

5. Section 5 of this Act gives the Central Government powers to make rules regarding:—

(i) Applications for mining leases.
(ii) Grant of mining leases.
(iii) Fixation of maximum and minimum areas and period and terms on which leases in respect of contiguous areas may be amalgamated.
(iv) Fixation of maximum and minimum rent payable.

The Mineral Concession Rules have been made under this Section.

Section 6 of the Act gives powers to Government to make rules regarding development of mineral resources and regulation of drilling, shaft sinking etc., the levy of royalties, fees, taxes etc., and the submission of returns by the owners.

The Mines and Minerals (Development & Conservation) Rules have been prescribed under this Section. Coal is excluded from the scope of these rules and separate rules for Coal are under the consideration of the Government of India.

Section 7 provides for making rules for modification of existing leases granted prior to the commencement of the Act so as to bring the leases in conformity with rules made under Sections (5) and (6). The rules under this Section so far as coal is concerned have not been prescribed and are understood to be still under consideration.

The Mineral concession rules now apply to coal, but there is a proposal to have a separate set of rules in regard to coal.

The rules provide for the grant of certificates of approval, prospecting licences and mining leases. The rules prescribe that in the case of coal the length of an area held on lease does not exceed twice the breadth. The minimum area is prescribed as 100 acres. The maximum area held under a lessee either by himself and jointly with other shall not exceed 10 square miles within a State. The period of lease shall be 30 years and the lease shall be renewable for one more such period in the case of coal.

The rules also provide for conditions of mining leases authorising payment of royalty on minerals despatched, revision of the rates in 1955 and every 10 years, payment of dead rent annually in respect of minerals, payment of rent for surface area etc. The rate of royalty prescribed for coal is five per cent of F.O.R. statutory price subject to a minimum of annas 8 per ton. The rates of dead rent for coal are a minimum of Re. 1 and a maximum of Rs. 5 per acre.

The powers under the Mineral Concession Rules are exercised by the State Governments generally. In certain cases prior approval of the Central Government is required.

Though Section 5 of the Mines and Minerals (Development and Regulation) Act provides for making rules in respect of amalgamation of leases in respect of contiguous areas no such rules have been prescribed. The act is administered by the Ministry of Natural Resources and Scientific Research. There is a Bureau of Mines which carries out prospecting and exploration. The functions of the Bureau and its relation with the State Governments do not appear to have been clearly defined. In Bihar, there is a Mining Department to administer the Mineral Concession rules. In West Bengal a department has recently been created and a Mining Adviser has been appointed.

The Bihar Land Reforms Act 1950

6. The Bihar Land Reforms Act authorises the Government to take over the rights of all intermediaries. From the vesting date the intermediaries will cease to have any interest on the land estate or tenure and the same shall be managed by officers of the State Government. The intermediaries will retain possession of their homestead land and mines which are worked by them. The intermediaries will be compensated at rates prescribed in the Act. In cases of mines which have been leased out the lessees may be permitted to work as lessees of the Government but Government retains the right to terminate the lease in which case the compensation payable to the lessee would be divided between the lessee and the intermediary.

By a notification dated the 26th January 1955 the rights of intermediaries in 8 districts vested in the State Government. The rights of intermediaries in the remaining districts have been taken over from 1st January, 1956. If the rights of all intermediaries have been taken over, then there will be only one royalty owner, namely, the Government of Bihar. An intermediary is defined as a proprietor tenure holder, under tenure holder and trustee. The Bihar Land Reforms Rules, 1951 subsequently amended from time to time lays down the procedure to be followed in implementing the Act. The question whether the rights of intermediary royalty holders in coal mines have been vested in the State is still not beyond doubt.

The West Bengal Estates Acquisition Act, 1953

7. The West Bengal Estates Acquisition Act provides for the State acquisition of estates, rights of intermediaries therein and rights of raiyats and under raiyats. The Government may by notification from time to time acquire these rights in any district or part of a district.

All leases of mines and minerals in a notified area by an intermediary immediately before the date of vesting shall be deemed to have been granted by the State Government. Compensation assessment roll will be prepared to show compensation to:

(i) Every intermediary in whose lands there is reason to believe that there are minerals not yet prospected or developed or prospected and abandoned.

(ii) To every intermediary who works the minerals to whom the land is deemed to be leased by Government.

(iii) To every intermediary who has granted a lease and which lease subsists on the vesting date.

An intermediary is defined as a proprietor, tenure holder, under tenure holder or any other intermediary above a raiyat or a non-agricultural tenant. The rights of intermediaries have not however been yet acquired and in our discussions with officials of the Government, we have not been able to get a clear picture whether the mineral rights of intermediaries have been vested or will be vested in the State. We shall revert to this subject in the chapter on Legal aspects of the question of amalgamation.

सत्यमेव जयते

CHAPTER VI

THE SMALL COLLIERIES AND THEIR PROBLEMS

History

1. We shall discuss in a subsequent chapter what should be the optimum size of a colliery and what criteria a colliery should fulfil. In this chapter we refer to what are commonly known as small collieries, the part they play in the structure of the Industry, the problems they face and the problems they pose.

Of the 734 collieries in production in Bengal and Bihar now, 259 produce each less than 600 tons a month and their overall production is less than 0·8 million tons. 495 collieries each produce less than 2,500 tons a month and their overall production is less than 5 million tons, compared to the total production of more than 30 million tons. They generally mine Grade II and Grade III coals. It will be seen, therefore, that the majority of the collieries in Bengal and Bihar are comparatively small collieries and that they produce only a small portion of the overall output of coal in these areas.

2. Small collieries must have existed in India right from the beginning of coal mining, particularly because in the old days every new venture would have been a small venture and the coal was extracted from the outcrops of the seams and at shallow depths. The number of small collieries has increased during boom periods, the first of which is known to have occurred in 1908. There must have been an increase in the number of these collieries during the war years of 1914 to 1918 and in 1919 the number of collieries producing upto 1,000 tons a month was 137 in Jharia and Raniganj out of a total of 288. This number registered a fall in the post-war depression period and in 1935 there were only 132 such collieries. During the Second World War the number increased till it reached 405 in 1945. Subsequently it has come down to some extent gradually.

Though mining might have been started in small concerns, it should have been possible to build up large colliery units on the foundations of the small ventures. But during periods of boom, the small capitalists acquired small areas mostly along the outcrops of the inferior seams particularly in Jharia, Mugma and Salanpur etc. It was possible for them only to start small mines with their limited resources, in the expectation of quick profits; there was little possibility of expanding the ventures, more so because of the inferior quality of the seams.

3. Another reason for the growth of small collieries is even as in the case of land-holdings, the division of property amongst the members of a family. In the case of coal, it is also possible that partners of an undertaking had differences of opinion and agreed to

divide the property; such divisions into the separate mines would have however been possible only in the earlier stages of the workings for once the mines were developed to the barriers it would not be permissible to divide them as separate mines without separate barriers. Another reason for the existence of small collieries was the system of salami which prevailed in the past. Some persons who had taken out lease of large areas found it profitable to sub-lease small portions of it at a salami which was higher per acre when the property sub-leased was smaller. In such cases also the fragmentation into separate mines would have taken place mostly in the virgin areas or quarry areas. While forces were at work creating the fragmentation of properties, there was no inducement or incentive to bring about a consolidation or unification of individual collieries. It may even happen that a number of small collieries in different areas of Jharia or even in contiguous areas are owned by a single proprietor or group of proprietors under the names of different companies. It appears to have been found to be more profitable to own small collieries instead of undertaking large scale mining enterprises. The coalfields of Karanpura, Ramgarh and other areas in Bihar are still in the early stages of development and most of the ventures there are small collieries. These facts account for the large number of small collieries in Bengal and Bihar.

Performance

4. Even though the small collieries have had preponderance in numbers, their output compared to the overall output of these areas has been exceedingly small as may be seen from the following:

TABLE I

Year	Collieries producing upto 1000 tons a month (Percentage of the total number of Collieries).	Collieries producing 1000 tons a month. (Percentage of the Total output)
1919	49 %	6·3 %
1925	54 %	6·0 %
1935	34 %	3·4 %
1945	56 %	7·0 %
1955	40 %	4·0 %

Industrial units whose output is small could still contribute something to the nation in the matter of progress. But the small collieries continue to work coal in many cases by the manual process of hewing the coal and carrying in head loads in quarries. In Mugma, certain areas of Jharia and certain other areas of Raniganj, it is still possible to see coal being quarried in small quantities by methods which might have been adopted in ancient days. The labour has hard physical work to do. No machinery is used. No labour amenities exist. Several of the small mines are anachronisms in times when

Coal Mining is a process of skilful and scientific winning of coal without waste or risk.

5. There are mines whose output is from 1,000 to 2,500 tons a month which are also comparatively small. These mines work coal underground by shafts and inclines, mostly by inclines, in addition to quarrying the coal where the seam occurs on the surface. They work with a small capital. Small machinery and plant, mainly steam haulage, small pumps, tubs and rail are used in these mines. In many cases the machinery, we are told, may be old and not properly repaired and maintained. In these mines, the owners have in the past tried to win that much of the coal as was easily accessible and could be won at a cheap cost. Naturally this is what every owner would do, but in these cases the owners do not have the machinery and capital to win coal left in dip areas of the seam after working out the rise areas. The areas left behind being small are beyond the possibilities of economic recovery through new shafts. Thus water-logged areas and virgin areas in the dip are sometimes left unworked in small mines and will be wasted as long as the mines continue to be small. There are examples of colliery owners faced with a fault of ordinary throw, not exploring beyond the fault and not attempting to extract the coal, for they do not want to incur capital expenditure. When they exhaust the shallow seams they will not be able to go deeper and exploit the lower seams for want of capital and equipment. The water-logged areas, virgin areas and the areas beyond faults can be recovered and worked only if the units are joined together.

6. The small collieries do not generally have the capacity to tackle outbreaks of fires in their mines or to safeguard themselves from the spread of fire from neighbouring properties. The fires in the Jharia, Karijore, Kalithan Jeenagora, Chandore areas are standing examples. A fire broke out in a colliery in Jharia in 1930 and spread to neighbouring mines. It was not tackled by any of the owners who abandoned the mines and the Coal Mines Stowing Board had to take measures. The Karijore Fire was kept under some control only by some of the larger collieries which were being threatened while the owners of the comparatively smaller collieries, where the fire first started and spread, abandoned them. The Jeenagora fire spread to several collieries. The Chandore fire has spread through some five collieries. It may be argued that fires have occurred in large collieries as well. True, but the owners have taken all the necessary steps themselves to keep them under control by building stoppings and by other measures. Their investments in the mine are large and they cannot afford to abandon them without making every effort to save the mines. Of about 40 known fires in the Jharia field more than 20 affected neighbouring mines and were all in small collieries. The inferior coal which they mine is however less liable to spontaneous combustion and is a lesser source of danger. The mining conditions, due to the nature of the seams and the low depth of the mines, are comparatively safer. The argument that because they are safe, safety measures are not required, cannot however be accepted. Safety measures and vigilance are needed if only to ensure greater safety. Accident rates per 1,000 workers in small mines are small. This is due largely to the generally safe natural conditions and also the low degree of mechanisation.

7. Many of the small collieries have in the past come into their own whenever there was a boom; the inferior coal which they produce does not have an assured market in normal times. When there was a market they could collect their labour and raise the coal. When orders are few and wagon supply is bad and they do not find the mine sufficiently remunerative they can close down and wait for better days, because retrenchment of labour poses no problems to them and because of the small capital at stake. The profits are rarely ploughed back into the business, there is no working capital and they exist on a hand to mouth basis. In many cases, their finances are so low that they cannot pay their labour weekly. But here a class of middlemen come to their aid. They advance the money for the payment of the weekly wage bills on their own terms, which may include the right to sell the entire output.

There is also the view that though small collieries flourish during the time when there is a boom in the coal trade, it is also possible that there are quite a number of them which can withstand the cold blizzards of depression. Some of them may have more staying power than comparatively larger units. Because of the low costs per ton they can indulge in rate cutting and ordinarily they start such processes. For example the system of granting illegal rebates to purchasers or agents is mostly prevalent in small mines producing low grade coals. It may be that rebates are granted by force of circumstances due to want of transport and in the competition for orders and that they are in the nature of distress sales; but the fact remains that rebates of Rs. 2 or Rs. 3 are being granted per ton of coal and the collieries are able to continue in existence. A small colliery cannot do so if it were not making a profit which though not large in the aggregate, may be substantial per ton of output. This can be achieved only by paying labour less, a process which to them is none too difficult because their labour is not organised. A number of witnesses have told us that the profit per ton of small mines is more than that of the larger mines.

8. During the wars, the production of the small collieries however small in the aggregate, was a help. Whenever there is a demand for more and more coal, standards regarding quality are not insisted upon by the buyer and what is ordinarily inferior coal may find an almost unlimited demand. This is also the time when, in the interest of increased production, various measures and controls regarding methods of mining are not strictly enforced and at that time the small collieries can thrive easily. Increased production during the stress of an international conflagration cannot be planned on any basis and whatever increase is possible, wherever and however possible has been accepted. But in planned production the coal has to be of the proper quality, has to be scientifically mined and the national interest is to be paramount consideration.

The Colliery Control order and its effect:

9. It has been stated by some that the Colliery Control Order, by fixing stable prices for coal and soft coke and by guaranteeing some allotment of wagons on the basis of the output of individual collieries and by insisting upon the use of inferior coal for certain

purposes has helped small mines, that the existence of small collieries has to some extent been fostered by the measures taken by Government since 1944 and that if the control were withdrawn the small collieries may go out of existence.

The control of the prices and the distribution of coal has no doubt enabled the inferior grades of coal to get a market. The consumer would prefer to have the better grades of coal but measures of control have made it imperative that lower grades of coal should be used by specific classes of consumers. But at the same time, classes like brick making coal and soft coke have the lowest order of priority for movement by rail and a fairly large quantity of such coal moves by road to places as far as 200 miles from the coalfields.

It is also a fact that in the system of allotment of wagons under the Colliery Control Order, the small colliery may in some cases get an advantage. To put it in other words, for the same owner, the existence of two small collieries side by side provides facilities for better transport than if the two were to be combined as one unit. This advantage is in indenting for wagons and in the soft coke quota where there is a small weightage for the small colliery.

In the fixation of the prices of coal, the comparative price for inferior coal on the basis of its useful heat units is slightly higher. The small collieries generally produce inferior coal and enjoy therefore some advantage in this respect. It therefore appears that in getting orders, in movement facilities and in prices, the small collieries have derived some benefit because of the Colliery Control Order.

Labour Amenities and other factors:

10. The organisations dealing with colliery labour, as we have explained in Chapter V are several. The following table shows the average daily number of persons employed in the Jharia and Raniganj coalfields in 1954.

TABLE II

	No. of Mines	Total No. employed
Category A		
(i) Colliery producing more than 2500 tons a month. . . .	212	1,89,427
Category B		
(ii) Collieries producing 600—2500 tons a month. . . .	211	35,465
Category C		
(iii) Collieries producing less than 600 tons a month. . .	270	11,003
	693	2,35,895

11. In regard to housing of labourers the position is as follows:

TABLE III

A. *Houses constructed by owners entirely by themselves.*

Collieries of	No. of Mines dealt with	No. of rooms	No. of workers accommodated	
Category A	189	47,424	1,15,889	61%
Category B	162	7,384	12,187	34%
Category C	83	926	1,042	9%

B. *Houses constructed with subsidy from Welfare Fund*

Collieries of	No. of Mines which took the subsidy	No. of houses sanctioned	No. of houses provided
Category A .	91	2,015	991
Category B .	9	216	40
Category C .	3	52	Nil

The welfare fund gives a loan of Rs. 105 towards the cost of land and Rs. 937-8-0 towards the cost of construction and a subsidy for the cost of land subject to a maximum of Rs. 110 for land and Rs. 625 per house constructed. These are standard two roomed houses of an approved design.

C. *Houses constructed by the Welfare Fund*

The Welfare Fund have also constructed houses in Bhuli in Jharia and Vijoynagar in Raniganj. Many of them are vacant, but some are occupied. The position is as follows:—

TABLE IV

Number of Houses 1614

	Number of Occupants
(i) Category A collieries employees	743
(ii) Category B ,, ,, ...	27
(iii) Category C ,, ,, ...	1
	771

It will be seen that smaller collieries have not provided much housing themselves to their labour nor have they taken advantage of either the subsidy from the Welfare Fund or the housing provided by the Fund. It will be argued that most of the labour come from the villages nearby and no housing is required. Statistics are not readily available of the percentage of such labour coming from adjoining villages but housing has to be provided for others and where housing is provided the conditions are known to be not so satisfactory.

12. In addition to the medical facilities provided by the Coal Mines Welfare Fund at Central places, collieries also provide such facilities. The details of such facilities in Jharia and Raniganj are as follows:—

TABLE V

	Category A Collieries	Category B Collieries	Category C Collieries
(i) Total No. of Mines	212	211	217
(ii) No. of Mines providing facilities	207	180	42
(iii) Hospitals	3 (214 beds)	Nil	Nil
(iv) Dispensaries	203	171	32
(v) Doctors	212	173	33
(vi) Compounders	161	40	5
vii) Nurses	9	Nil	Nil
(viii) Dressers	59	2	Nil
(ix) Other staff	128	14	1

Collieries employing more than 30 persons are to provide the services of a medical practitioner. It seems that about 140 collieries of Category C will therefore be exempt. Out of the 70 which may not be exempted less than half are providing such facilities.

Collieries with a monthly output of 500 tons or more are to provide pit head baths. In regard to provision of pit head baths, creches etc. the smaller collieries are (because of their lack of capital and the smaller number of labourers employed), exempt from the operation of the Rules. In large collieries, these facilities including facilities for education of children can be provided.

13. We have been informed by the Coal Mines Welfare Commissioner that it is impossible to plan proper labour amenities when the number of persons working in a mine is less than 500. The Coal Mines Provident Fund Commissioner has stated that the small collieries generally evade payment of contribution for Provident Fund of the workers and his administrative difficulties can be solved if there were only large units.

In the opinion of the Labour Conciliation Officer of the Government of India, Labour Unions cannot function in small collieries for obvious reasons. Comparatively speaking, the workers in the larger collieries were better off and their wage-level was also higher. The disputes in the small collieries related more to non-implementation of the Conciliation Board's award. Bonus was not paid in some collieries while in a majority of cases payment of bonus was invariably delayed. There were complaints of attendance not being properly maintained while in some cases workers were kept on a temporary basis so as to deprive them of statutory benefits. The work-load in smaller collieries was often higher and payment of overtime was often avoided. There have also been complaints of non-payment of other statutory privileges like leave with pay.

The capacity of the small collieries

14.·The production of collieries having an output of less than 1,000 tons a month may be compared as follows:—

TABLE VI

	No. of Collieries	Total output (million tons)	Percentage of overall production
1919 . .	288	1·19	6·3
1935 . .	132	0·57	3·4
1945 . .	428	1·68	7·0
1955 . .	309	1·28	4·2

It will be seen that an overall increase in the output from small collieries has been possible only with a corresponding increase in the number of collieries: collieries of this category do not have the means to increase their outputs to any large extent. Individual collieries make the claim that given wagons they can raise their output several times. But a careful examination of typical cases shows that these are rather exaggerated claims and that on an average the increase in the production possible is not likely to be more than 20 per cent. The reasons for this are clear. The capacity for production depends on the area of the leasehold, the nature of the seam, the equipment available, the technical know-how and the financial capacity. Small collieries having small areas, with no finance or equipment cannot increase their output, very much.

Technical Management

15. Of 734 collieries in production now in Bengal and Bihar 259 collieries produce less than 600 tons a month. They can be managed by permit managers with very limited technical qualification and circumscribed technical outlook. It is possible that some of these mines have qualified managers, but their number will be insignificant. Then come the collieries which are called Second Class collieries because they can be run by persons with a Second Class Certificate of Competency. They have an output of less than 2500 tons a month. It is also possible for a first class colliery manager to manage one or more such mines. Collieries producing more than 2500 tons a month are to be managed by persons with a first class colliery manager's certificate of competency. Though the general rule is that two mines with an aggregate output of more than 2500 tons a month, should not be managed by one manager, there are instances where two mines each with an output of more than 2500 tons are also managed by a single manager with an assistant or two with second class certificates of competency. The larger mines are managed by first class managers, who have competent assistant managers in charge of each district and for each shift.

Above the manager, is a category of officer called the Agent; he is generally in charge of a group of collieries. In the larger collieries, the Agent is a competent first class manager with several years' experience as a manager. But there are also Agents in small and medium sized collieries who have no mining qualification. The Coal Mining Committee of 1937 had recommended that Agents should be persons with proper technical qualifications. This has however not been implemented.

In some of the very big groups of collieries a Chief Mining Engineer or Superintendent of Collieries or General Manager with technical qualifications and several years of experience is in overall charge of planning and production. He is often assisted by a Deputy with equally high qualifications and a Central Coalfield Office from where the work of the Agents and Managers is controlled and supervised. Thus, the large colliery is planned, controlled and administered by a number of experienced technical officers, while the small collieries have at their disposal very little technical knowledge.

16. We have been informed by several witnesses that many of the smaller collieries keep a manager only because the law requires them to keep one. He merely signs the papers and carries out the bare statutory duties for which a manager is necessary. The actual working of the mine is controlled by the owner himself or his Agent who carry out the management themselves or through a subordinate. There may thus be managers who may not inspect the mines placed under their charges. There are it seems mines which run for several months without a manager on some pretext or the other. When this is discovered by Government Inspectors excuses are brought up; a manager is perhaps appointed then, only to be dismissed on some ground as soon as possible. We have indeed been told of an extreme case, where the so-called manager was living 20 miles away from the mine. All this does not and cannot happen in the larger mines.

Their place in the Industrial Structure

17. There are 495 collieries producing less than 2500 tons a month; of these only 263 have replied to our questionnaire. There are 68 collieries producing more than 10,000 tons a month; of these 65 have replied to our questionnaire. These figures are indicative of the difficulties of an administrative nature usually arising from the existence of a large number of such small collieries.

Of 263 collieries mentioned above, the grouping according to ownership is as follows:—

TABLE VII

	No. of Collieries
Public Ltd. Co.	34
Private Ltd. Co.	46
Partnership	90
Sole Proprietor	55
Undivided family	46

The small number of Public Ltd. Companies and the preponderance of other forms of ownership are noteworthy.

18. Dealing with the structural forms of the Industry, the Indian Coalfields Committee stated:—

> "Broadly the Coal Industry in India can be classified under three main structural heads:
>
> (a) Captive collieries which are owned and operated by consumer interests; these reveal a pure form of vertical integration.
>
> (b) Collieries under the control of Managing Agents who also finance and operate a number of other industries; here we find a combination of horizontal and vertical integration which is prevalent over a large portion of the Coal Industry in India; and
>
> (c) Privately owned collieries which operate in small units and reveal the inherent characteristics of diffused ownership and individualistic enterprise."

They stated further:

> "The privately owned mines exhibit certain structural variations. There are a number of what may be called 'family mines' owned and operated by individual families. But in many others, the ownership has passed into the hands of people whose primary interests are in other things than coal. Some owners are pure and simple financiers and, in some cases, utilise the services of raising contractors for operating the mines. There are others who are principally merchants in coal and who with their distribution organisations, consider it profitable to own certain units of production. Recently other traders who supply foodgrains and consumer goods in the coalfields areas have appeared on the scene as owners and operators of small mines."

They added: "There is some justification for the existence of small private owned collieries but if any of them react adversely in the interests of the country as a whole, remedial action is necessary."

They concluded that the presence of independent small units was in *no way a weakening factor in the structure* and that small independent units may also act as a check to the grasping proclivity of larger groups. By reason of their independence they had a right to exist. But "the right of the State to interfere with the so-called personal liberty or rights of small operators cannot be disputed once we appreciate that the situation is charged with danger in respect of both the stability of the industry and the conservation of national resources."

Since the Report of the Coalfields Committee, the position has changed. The opening of mines without proper planning, without proper technical skill and advice and without the capacity to undertake measures of safety, conservation and labour amenities is at once recognised as militating against the interest of the State particularly in the context of our present National status. The existence of mines with small holdings, with bad workings, with either no machinery or old and inefficient machinery, with no facilities and amenities to labour is incompatible with the interest of a progressive State. Such mines surely constitute an anachronism in a Welfare State marching towards rapid industrialisation.

19. The argument has been adduced before us that the small collieries produce inferior coal, which has demand but which fails to get movement. Their rationalisation by amalgamation or modernisation is unnecessary because if production is increased there will be no possibility of selling that coal. This coal is not moved to distant parts of the country because of the high freight rates (which are the same for high grade and low grade) which make it uneconomical to the consumer. The collieries do, it is said, fulfil a social duty in that they provide employment to a number of villagers who can live in their favourite environments and at the same time earn some extra wage. The reserves of inferior coal are large and the small collieries may not have, during a century or so, worked even a minute proportion of the overall reserves of these coals. These coals can be produced with ease and production can be increased whenever required at the shortest notice by the employment of more labour. So they are useful to the country, they do small harm to the coal reserves and they keep some labour in employment and therefore they should be left alone to continue as at present.

If there is demand for this coal, which is obvious, because soft coke is an ideal smokeless domestic fuel in place of which, material like cowdung and wood and charcoal are used all over the country, the need is not to curtail the production or let the *status quo* to continue but to take steps to ensure that soft coke is supplied at competitive prices to all households in India. What is required is a positive policy and not a passive acceptance of the limitations of Railway transport. The reserves of inferior coal are large, but the major portions of these reserves lie in Jharia at great depths at which the exploitation of even superior coal is not being done today. Unsystematic working of the seams at shallow depths is going to make the working of the same seams at greater depth more difficult and more costly.

Excepting for a small colliery working in isolation in an out of the way area, where there is no Railway transport facility and where the production of this coal even by crude methods meets a local demand there seems to be no valid reason why the existence of small collieries as such is necessary to serve the country's interest.

> "The opening up of small collieries during periods of prosperity and their closure during bad times both have a most deleterious effect on the proper exploitation of the country's resources. These collieries are generally ill equipped and their object is to secure the easiest coal. The result, not infrequently is that coal bearing areas become pock marked with small shallow working which may lead to unsound development in the neighbourhood and may, as happened in the Jharia field, be the cause of disastrous fires" (Indian Coalfields Committee—1946. Chapter III, Para II).

Summary and Conclusions

20. The small collieries are large in number, but their overall onput is small. They are small ventures with no equipment. They have no technical staff. They have limited, if any, possibilities of expansion. They cannot follow scientific and planned methods of exploitation of coal. They cannot tackle fires. They do not provide housing and other amenities to labour; and as labour in these mines is not organised collective bargaining is not generally possible. Labour is not paid wages according to the standards laid down and Provident Fund and other facilities are denied. There is wastage in production. The country is going to need more coal and in the next decade or so, the requirements of coal for industrial purposes may increase to more than 200 million tons. New standards to improve the living and working conditions of labour are being laid down. If the Industry is to play its part in the immediate future, if labour is to get its due place, it should be reorganised. Such reorganisation is hardly possible if so many small units of production, with all the disadvantages mentioned, are to be allowed to continue. They should therefore be amalgamated, brought under unified control, reorganised and modernised so that the existing resources will be exploited in the best possible manner and in the best interest of the Nation.

सत्यमेव जयते

CHAPTER VII

IRREGULAR BOUNDARIES

Present Position

1. In the evidence tendered before us by different experts, it has been unanimously stressed that in the interests of efficient and economic production of coal, and for the sake of conservation of coal reserves, the mine boundaries should be of a regular shape. This, unfortunately, is not the case now. Leasehold boundaries are often crooked, and their shapes extremely irregular. Also, they generally have no relation at all to geological disturbances like faults and dykes etc; and little relation with surface features like rivers, jores, railways etc. The existence of boundaries of both these types creates difficulties and problems during the extraction of coal.

Problems created by irregular boundaries etc.

2. Extraction of coal from narrow corners and other similar patches presents numerous technical problems, the major one being that of roof control. As the area of a goaved-out place in a particular nook or corner is small, very often the main roof does not break, or where it does, the break is neither timely nor regular—with the result that weight of the superincumbent strata is thrown back on solid pillars. Weighting and crushing of pillars, with its numerous safety problems, is the usual result. The danger of accidents by falls of ground increases, the behaviour of roof and sides become unpredictable, and the crushing of coal may result in spontaneous combustion.

3. The other major harmful effect resulting from working near irregular boundaries is the one relating to conservation. Large quantities of coal are lost due to the difficulty in the efficient extraction of coal from narrow corners etc. Also, crooked boundaries, containing a large number of deep and angular curves are obviously much longer than straight boundaries; and as a result, the amount of coal locked in the barriers along such boundaries is much larger than if the boundary had been straightened.

4. Plan I illustrates a case of a crooked boundary: straightening of this barrier would save about half a lakh tons of coal in a 28 ft. thick seam. Also the extraction of about five lakh tons of coal in areas A, B and C would be extremely difficult from their respective collieries. Plan II illustrates another case of very irregular boundaries. The situation here is made worse by the presence of several faults in the property. The effect of the position of such geological disturbances is discussed below.

Relation between Geological and Surface Features, and Mine Boundaries

5. Where a large fault or dyke passes through a mine property, it renders the extraction of coal lying on the other side of the fault or dyke difficult. The driving of stone drifts and sinking of new shafts to work out coal from such portions may not be economical:

such areas could however be easily worked out from a neighbouring colliery.

6. Plan III illustrates an extreme case of this type. Assuming a 10 ft. thickness of coal, colliery (2) with about 6 lakh tons of coal cannot be worked satisfactorily, as a large fault passes right through the middle of the property. Area A should be worked from colliery (1) and area B from colliery (3). In colliery (4), area C with about 1½ lakh tons of coal cannot be worked properly: this could be easily worked from colliery (1). In colliery (5), area D containing about 4½ lakh tons of coal could be worked more easily from colliery (1). On the SE side, the barrier should be straightened along XXX to enable proper working of area I, J, K and L (containing about 10 lakh tons of coal) which would otherwise be lost. In the SW corner also, loss of about 3½ lakh tons of coal in areas F, G and H could be avoided by straightening the barrier.

7. A few other cases of this type are illustrated by plans IV, V and VI. Plan IV shows an area containing a 17 ft. thick seam which is traversed by dykes and faults. About four lakh tons of coal in areas A, B, C and D in the colliery under consideration, and about 2½ lakh tons in area E of the neighbouring colliery, could not be worked properly due to the unsuitable position of the barrier in relation to a dyke. This could have been avoided if the boundary had been straightened along XX. About 5½ lakh tons of coal in areas F and G in the colliery and about 4½ lakh tons in areas H, H in the neighbouring colliery cannot be worked properly: the boundary could have been at YYY with advantage. The extraction of the seam in area J also would not be efficient.

8. The three lakh tons of coal in areas A and B of colliery (1) in Plan V would be lost, while it could be easily worked from Colliery (2). This case is a simple version of a very large number of cases where the boundary of one colliery digs deep into the area of the neighbouring colliery.

सत्यमेव जयते

9. As a result of irregular boundaries and faults, it would not be possible to work the five lakh tons of coal in areas A, B, C and D of the property shown in Plan VI. The 9 lakh tons of coal in area E could be better worked from the colliery lying on the south side. The 4½ lakh tons of coal in area F and about four lakh tons in area G in the neighbouring collieries would also be difficult to work. This case illustrates a type where it would be ideal to disintegrate the property and distribute portions amongst the neighbouring collieries: Failing that, the boundary should be straightened along X X X.

10. The presence of rivers, roads and railways on the surface of a property may not create much difficulty during the development stage; but is bound to foul up the depillaring plans unless the seam is thin and the depth is great, or solid stowing is resorted to. Illustrations of this type are found in practically every part of the coalfields. Plan IV above is an example.

Causes of Unsuitability of Barriers.

11. Most of the mine leasehold boundaries are based on Revenue Survey boundries and these have generally no relation either to geological or surface features. Another cause, not so much of irregu-

lar boundaries as of irregular shapes, is the fragmentation of large leasehold areas.

Previous Considerations of the Question

12. As far back as 1920, Traharne Rees had commented on the fantastic shapes' of some lease-areas. Commenting on this subject, the 1937 Coal Mining Committee stated that "even where properties are comparatively large, their boundaries are often so irregular as to involve excessive waste of coal in barriers... Further, in depillaring in narrow corner of a property, the roof may not be able to break down completely, and a hanging roof may thus be erected throwing the weight on the barrier and producing crushing." The Committee made a detailed reference to a case involving 8½ lakh tons of coal, which could be conveniently worked only by transferring some areas from one colliery to a neighbouring one. Commenting on this problem, the 1946 Indian Coalfields Committee agreed that "irregular boundaries of a leasehold can and do frequently lead to avoidable losses of coal".

Main Difficulties in adopting Remedial Measures

13. From a study of the cases above, there is no doubt that there is urgent need to straighten some irregularly shaped boundaries and to adjust others in relation to dykes, faults, rivers, railway lines and roads etc. This was also the consensus of opinion of the mining experts, on this point. The straightening of irregular barriers may present certain difficulties, the main one being created by the intermediary interests. Discussing this aspect, the 1937 Coal Mining Committee stated:

> "Many mine-owners have recognised this (necessity) and have arranged exchanges of mutual advantage to themselves as lessee only to find that their landlords either decline to consent or demand excessive salami or transfer fees. This has happened even when the exchange has been of obvious advantage to the landlords concerned as, for instance, when it enables coal to be worked which would otherwise be left behind and lost for ever".

14. It then gave a concrete case involving 15½ bighas of a Colliery B containing one lakh tons of coal and 245 bighas of the neighbouring colliery C containing 1·6 lakh tons of coal and added:

> "Neither area can be worked from its parent colliery because both are cut off by faults, but can be worked from (a third) colliery A without any additional expenditure or risk. Colliery B has been leased and sub-leased several times and there are thus a large number of interested landlords. It has not been developed, but the negotiations for the transfer of the 15½ bighas have been so protracted that colliery A has meanwhile reached its boundary and will presently be going back with pillar extraction. Once this happens, the 100,000 tons of coal in the 15 bighas will be rendered inaccessible".

The Committee made a reference to another case where 'the superior Landlords is the same for both collieries and he accepted the terms of transfer arranged by the two mineowners; but the negotiations failed because the intermediate lessees would not consent...'

Remedial Measures suggested and conclusions

15. In the case of new leases the Mineral Concession Rules will look after the problem of irregular boundaries but in the case of the existing mines this state of affairs, obviously cannot be permitted. Transference of areas between collieries should be permitted on payment of low fees; or the clauses in leases referring to 'instroke' and 'outstroke' rights should be rendered null and void, if necessary. Where transference of leasehold areas for adjustment of boundaries is considered necessary in the interests of conservation, the intermediary interests should not be permitted to come in the way.

16. Boundaries should be re-drawn to coincide with natural geological disturbances or with surface features like rivers, roads or railway tracks etc., with the object of minimizing the loss of coal in barriers.

17. Schemes of adjustment of barriers may be worked out or approved by the authority recommended in Chapter XII. The authority should have statutory powers to enforce any adjustment of barriers that it considers necessary.

It may, however, be noted that the work of adjustment of boundaries may be a continuous process. In the initial stage the work will be heavy and necessarily extend over a period of several years for the adjustment and regulation of boundaries of the existing leases. Further adjustment and exchange of coal bearing areas in seams will be necessary from time to time where during the course of working virgin areas, faults, dykes or other natural disturbances or any irregularities are encountered in the process of development. But it will not be desirable or necessary to continue the Statutory Body to deal with such work as after the initial readjustment of boundaries of leases, the readjustment during development of virgin seams may be necessary only in a few cases in a year. It is, therefore, suggested that when the main work of the Statutory Body is completed and the Statutory Body is dissolved, further work of adjustment of boundaries may be entrusted to the Department of Mines, to be carried out in consultation, wherever necessary, with the mining officers of the State Government concerned.

Recommendation

1. In order to minimize the locking up of coal underground due to the existence of railway lines, roads, rivers etc., the boundaries of collieries should be redrawn and readjusted so that such features form the boundaries wherever necessary.

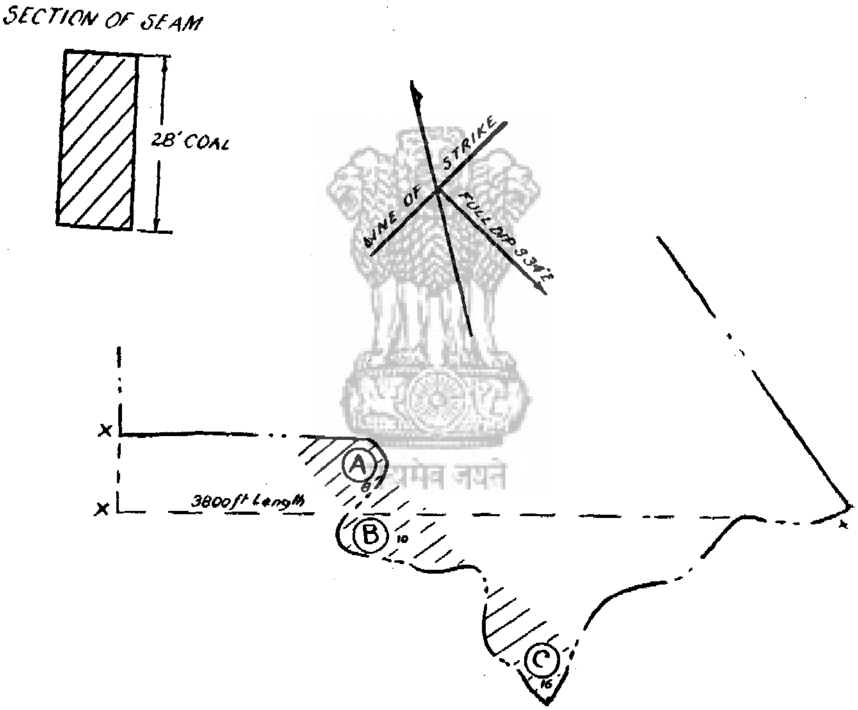
2. In case of geological disturbances like faults, dykes etc. in coal seams the boundaries should as far as possible be readjusted so that the boundaries overlie such disturbances.

3. Registration of such transaction as may be necessary for re-adjustment of boundaries should be exempted from stamp duty or nominal stamp duties should be charged.

4. The Government of India may suggest to the State Governments concerned to take measures to ensure that the technical difficulties in the way of adjustment of boundaries, arising from different lease terms should be removed.

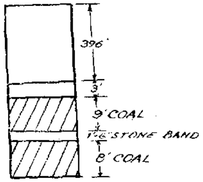
PLAN No I

Scale :- 1" = 660 ft



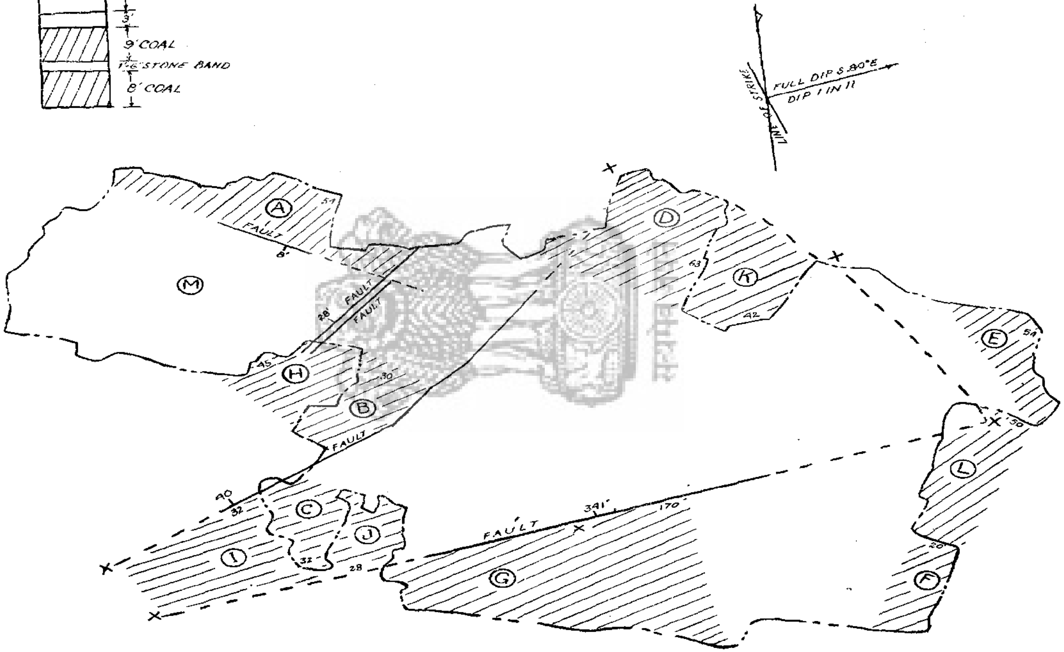
सत्यमेव जयते

SECTION OF SEAM



PLAN No II

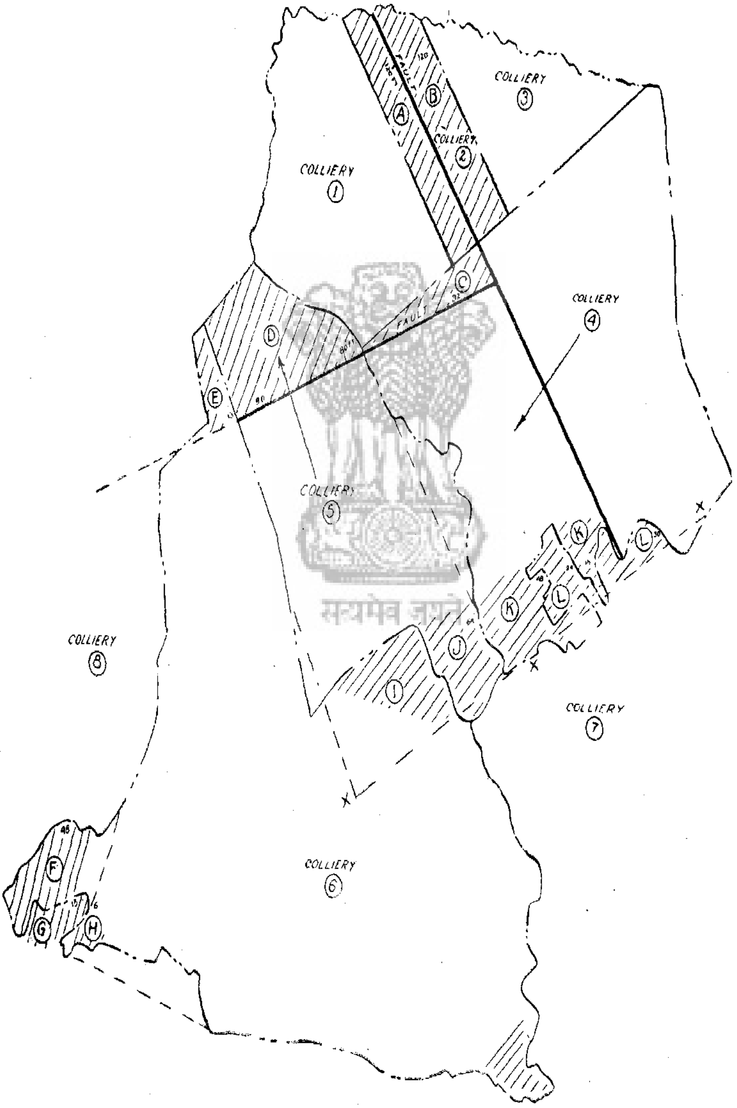
Scale :- 1" = 660ft



सत्यमेव जयते

PLAN Nº III

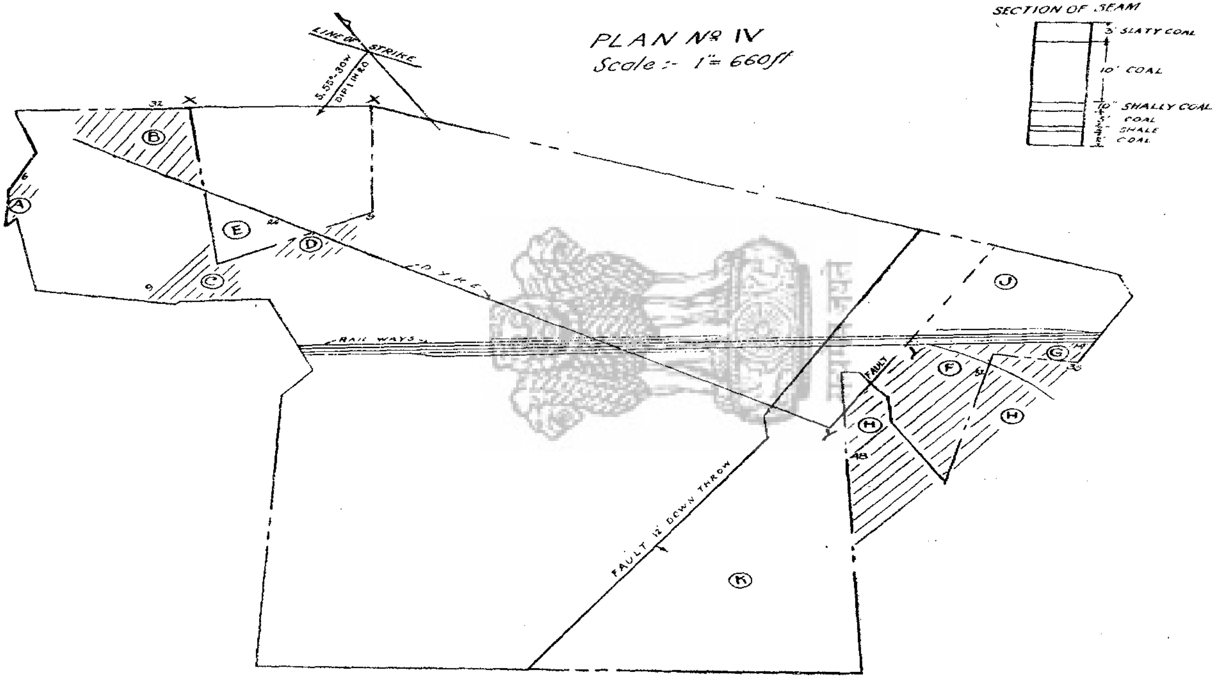
Scale:- 1" = 660ft



सत्यमेव जयते

सत्यमेव जयते

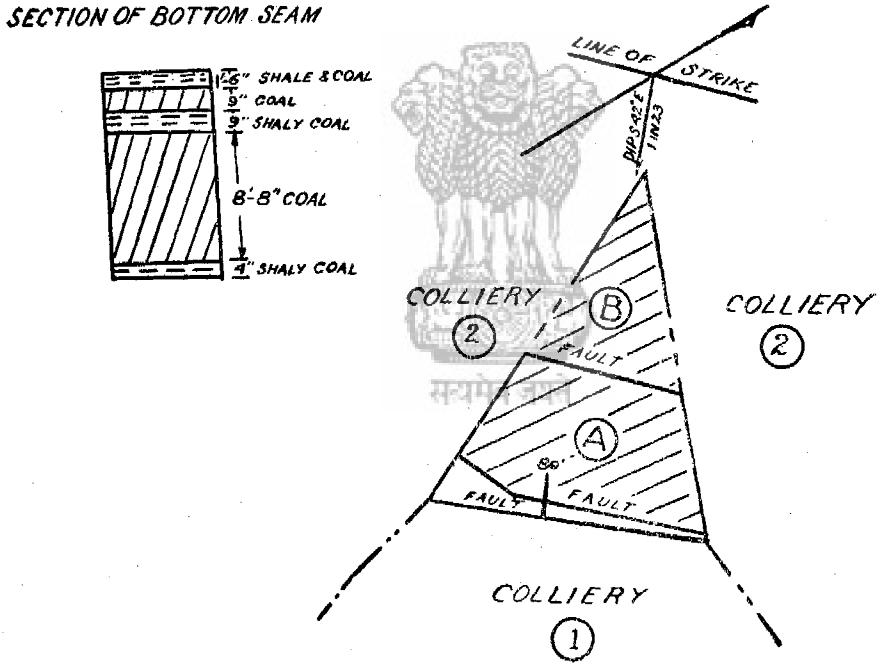
PLAN No IV
Scale :- 1" = 660ft



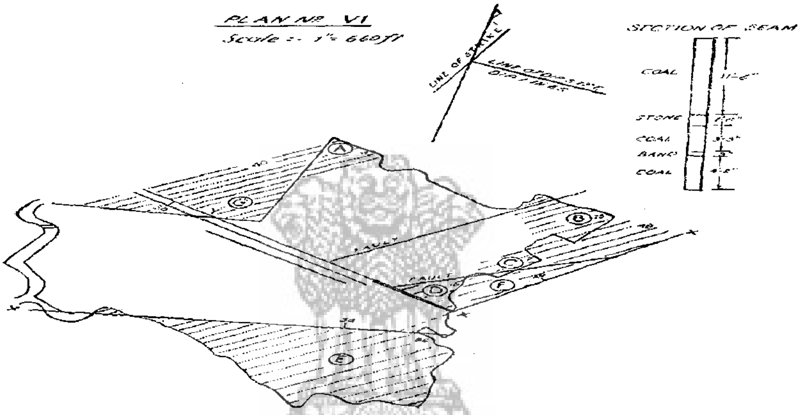
सत्यमेव जयते

PLAN No - V

Scale :- 1" = 660 ft



सत्यमेव जयते


PLAN No. VI
Scale :- 1" = 660 ft
LINE OF STRIKE
LINE OF DIP
SECTION OF SEAM
COAL
11'-6"
STONE
COAL
BAND
COAL
FAULT
FAULT
A
B
C
D
E
F
G
48
X
X
X

सत्यमेव जयते

CHAPTER VIII

COAL CONSERVATION

The Reserves of Coal:

1. The first attempt to estimate the reserves of coal in India was made by Dr. C. S. Fox in 1932. He gave his estimate on the basis of a rough and ready method of assessment, as 60,000 million tons up to a depth of 1000 ft. of which 20,000 million tons were workable. Out of these, he also stated that only 5000 million tons were good quality coal. The Indian Coal Mining Committee, working on the figure of 5000 million tons of Dr. Fox estimated that the reserves of good quality coal at the end of 1936 were of the order of 4889 million tons. In his evidence before the Indian Coalfields Committee 1946, Dr. Fox gave a figure of 40,000 million tons of coal up to a depth of 2000 ft. including seams of a thickness above 4 ft. The Committee were of the view that as Dr. Fox had estimated the reserves only upto a depth of 2000 ft. and that coal reserves which occur below 2000 ft. should also be taken into account. In an attempt to evolve their own estimates they made enquiries of all colliery concerns regarding their reserves and on the basis of replies recorded they presented a figure of 16,500 million tons. As this referred to working collieries only and as many did not reply, this estimate must necessarily be far short of the actual reserves. Dr. Fox's figures, with all the approximations his method involved still remain the only authoritative figures. The Coalfields Committee also pointed out that reserves of non-coking coal were sufficiently large but the reserves of good coking coal might not exceed 700 to 750 million tons. In 1946, Mr. A. B. Dutt, working on Dr. Fox's figure estimated that there were 4460 million tons of good quality Gondwana coal in seams not less than 4 ft. thick and within 2000 ft. from the surface. He also stated that reserves of Tertiary coals would be of the order of 2527 million tons.

In 1950, the Metallurgical Coal Conservation Committee estimated by a survey of the working collieries and a study of data regarding reserves in virgin areas that the reserves of coking coal were as follows:—

Grades		
Selected A & B	1300	million tons.
Grade I	659	,, ,,
Grade II	553	,, ,,

This was the first attempt to determine the reserves qualitatively with some precision, but the data taken and the methods of estimation have not been accepted without criticism.

The Working Party of the Coal Industry made an estimate in 1951 of non-coking coal according to the figures supplied by the Geological Survey of India, also based on Dr. Fox's estimates, and stated that the total quantity of non-coking coal including Tertiary coals was of the order of 39,650·25 million tons. This Party was not certain about the total reserves of good quality non-coking coal. They stated that though there may be a shortage of the best quality, there was not likely to be any shortage of the good quality, non-coking coal in the country. They suggested that steps should be taken to determine the total availability of non-coking coal. Recently, the Geological Survey of India have made a reassessment of reserves of coals in Jharia and Ranigunge Coalfields. This was to bring up-to-date, by fresh boring and mapping the estimation made by Dr. Fox in regard to Jharia Coalfields and Dr. Gee in regard to Ranigunge Coalfield; the figures have not yet been officially published. We understand that they indicate that the reserves in both these coalfields are much more than estimated previously by geologists but the basis of estimation has still not been accepted as accurate.

2. It appears that no definite procedure has been laid down in India in regard to estimation of reserves of coal, and no attempts made *de novo* to estimate the total reserves of Coal quality-wise. Other countries have adopted certain principles and have by now evolved standard methods of estimating the reserves. We understand that the importance of this matter has been realised and that the appointment of a Committee to draw up the principles and procedure of determining the reserves of coal has been proposed by the Coal Board and that the Government of India will soon take action to appoint such a Committee, not only to draw up the procedure but also to determine the reserves of coking and non-coking coal in India. We also understand that the Government of India have appointed a Coal Council one of the functions of which will be to make an estimate of the reserves of coal. Considering the fact that no dependable data regarding the reserves of coal gradewise and fieldwise is available in India, we feel that it is high time that the procedure is laid down and the reserves are properly estimated. Arrangements should also be made to reassess the reserves every five years.

3. Indian Coals are broadly divided into two types; Gondwana coals and Tertiary coals. Gondwana coals occur in Bengal and Bihar, in M.P., Vindhya Pradesh, Orissa and Hyderabad. They generally occur in the valleys of rivers like the Damodar in Bengal & Bihar, the Mahanadi in Orissa, and the Godavari and Wardha in Central India. The Tertiary coals occur in Assam. The Lignite occurring in Bikaner and in South Arcot in Madras is also deemed to be Tertiary coal.

Gondwana coals are divided into two classes, high volatile coals and low volatile coals. High volatile coals contain volatiles of more than 30 per cent. and also moisture to the exent of even 10 per cent. They are free burning coals and are suitable for steam raising. The low volatile coals have a low volatile content 20 per cent. to 30 per cent. and low moisture contents. Many of these coals with low ash content up to 17 per cent. have also a good coking property and are suitable for manufacture of hard coke for metallurgical purposes. Coals with an ash content above 17 per cent. are not however considered suitable. These can be used for the manufacture of hard coke but the hard coke so prepared is not quite acceptable for metallurgical purposes because of the high percentage of ash and other imperfections. The economics and efficiency of blast furnace operations are affected by the presence of a large percentage of ash in the coke. Therefore, coal with an ash content of 17 per cent. to 25 per cent. will have to be beneficiated to reduce the ash content and when that is done the coal is very suitable for the production of hard coke. Low volatile content in the coals is necessary, but there are some types of high volatile coals which also have a coking property. They are not by themselves suitable for the manufacture of hard coke. Blended in proper proportions with low volatile coking coal they could be utilised for the manufacture of hard coke.

We have already mentioned in Chapter V the various grades of coals. Low volatile coals are graded according to the ash content and high volatiles are graded according to the ash plus moisture, the best coals being those with low ash content. Grading is, however, applicable only to the coalfields of Bengal and Bihar at present.

Safety & Conservation :

4. When Coal Mining developed from the stage of surface quarrying to underground working, it had become a more hazardous operation and called for skill and planning mainly with a view to reducing the hazards in coal winning. The common dangers of Coal Mining are falls of roofs, bumps, premature collapses, spontaneous combustion, gas explosion, flooding and fires. There are regulations laid down under the Mines Act, controlling the layout of mines and prescribing safety precautions. The emphasis is naturally on the safety of the workmen. From 1934 to 1956 a series of accidents occurred in the Coalfields of Jharia and Raniganj with great loss of life and these led to the appointment of the Indian Coal Mining Committee in 1937 to suggest ways and means to ensure the safety of the mines and the miners. This Committee dealt with various accidents which had happened in the coalfields as also the conditions of working and the reasons which led to accidents, fires, explosions etc. They also dealt with wastage of coal in extraction and recommended amendment of the Mining Rules and the encouragement of stowing which, they pointed out, was an essential measure to be carried out during depillaring in certain circumstances to prevent accidents and fires, explosions, premature collapses etc. They also pointed out that stowing was being carried out in some collieries but these collieries were placed at a competitive disadvantage with the collieries which did not require stowing. Therefore, it was necessary to grant some form of financial assistance for stowing. Stowing is a measure of conservation as also of safety; stowing for safety contributes to some extent to conservation and *vice versa.* As a result of the recommendations of this Committee the Coal Mines Safety (Stowing) Act came into law and the Coal Mines Stowing Board was set up for granting assistance for stowing operations and other protective measures to be carried out in collieries. Subsequently, on the recommendations of the Metallurgical Coal

Conservation Committee, it was decided in 1952 that the Coal Mines Safety (Stowing) Act should be repealed and the Coal Mines (Conservation & Safety) Act was enacted to enable measures being undertaken not only for safety as was done before but also for conservation and for clothing Government with more powers.

5. Safety and conservation are closely interlinked. Steps taken for ensuring the safety of workmen in mines are measures of proper planning of mines, proper sizes of galleries and measures for prevention of accidents. The measures for safe working also reduce the loss of coal in working for, because of the proper and planned workings, a larger amount of coal can be extracted and stowing and other protective measures also help in the extraction of more coal. In addition to these, measures for preventing fires, flooding, collapses and other accidents helped to save coal. Conservation by itself was not a measure which was statutorily enforced or financially assisted until the new Act came into force in 1952. There is a contention that, compared to safety, there is now-a-days an increasing stress on the conservation aspect of coal mining. It has been stated that if better facilities and a larger measure of assistance were to be given for stowing etc. for conservation, the safety aspect of mining would recede and the incentive to collieries to carry out stowing for safety alone would be taken away. There are two departments in charge of safety, the Coal Board and the Department of Mines. The Department of Mines is, under the Mines Act, primarily responsible for the safety of the miners and may require the collieries to carry out safety measures to ensure that the risk to the workmen is reduced to the minimum. The Coal Board has responsibility for both safety and conservation. In the matter of safety, the Board has the responsibility to help collieries with finance to carry out protective measures as also stowing to prevent the occurrences of collapses, crushes, fires and flooding and explosions. The Board has also the power along with the Chief Inspector of Mines to require the collieries to carry out such protective measures as may be necessary. The Chief Inspector of Mines enjoys these powers under the Mines Act as well as the Coal Mines (Conservation & Safety) Act. The powers of the Chief Inspector of Mines, of inspection and control etc. are wide. In the interest of safety of a mine, the extraction of coal in an area may be prohibited but it is clear that in certain circumstances in the interests of conservation mining should be permitted with proper precautions. Absolute safety is assured if coal is not mined and workmen do not enter an area. But it is distinctly a loss to conservation if the coal is left behind. Conservation demands working of the coal and the extraction to the maximum extent in consonance with safety. Therefore, though safety and conservation are interlinked, there can be *bona-fide* differences of opinions between two Departments if one emphasizes safety only and the other emphasises conservation only. This is guarded against by the fact that the Chief Inspector of Mines is a permanent member of the Coal Board. But as departmental responsibilities may be more important the position may not be considered to be completely satisfactory. We would like to state here that Safety and Conservation should go hand in hand and that every effort should be made to ensure co-ordination of work between

the Department of Mines and the Coal Board as this may have far reaching effects on the country's coal production and the state of the coal mines. Measures should be taken to ensure the maximum extraction of our coals, and for the best use to be made of the coals but at the same time the maximum possible extent of safety and avoidance of risk and the loss of life to labour should also be assured.

6. The conservation of coal requires not only the avoidance of wastage in production but also the prevention of wastage in the utilisation of coal. The better coals could be conserved if wider and better use is made of the inferior coals. The coking coal could be conserved if it is denied for purposes for which it is not absolutely necessary. The inferior coals could be utilised better after beneficiation and conversion into better quality coals. The range of coking coal could be increased by beneficiation of low grade coking coal and also by blending with non-coking coals. Stowing, washing and blending have assumed great importance in connection with Coal Mining and utilisation of coal and we shall, therefore, deal with them in more detail.

Stowing:

7. Stowing was introduced in India in 1914 in the Ballarpur Colliery in Madhya Pradesh. The necessity of stowing and the advantages of it had been recognised by mining engineers in India since those days and stowing plants were established in some of the mines situated near the rivers in the early nineteen thirties. The grant of assistance for stowing by the Coal Mines Stowing Board since 1941-42, which has been continued by the Coal Board has helped to encourage expansion of stowing to some extent. In 1941-42, 30 colleries were carrying out stowing and the total quantity of stowing material used was 2·5 million tons. This has progressed and now we understand, 66 collieries are carrying out stowing and the total quantity of material stowed is about 6 million tons. Stowing is a process of filling with incombustible material the voids (goaves) created by taking out coal underground. By underground packing with incombustible material, support is given to the roof, leakage of gases is prevented, spread of fire, danger of flooding and other dangers are removed. Stowing enables larger percentage of extraction of coal and thus contributes directly towards conservation in addition to indirect benefits by preventing destruction of coal in fires, explosions, collapses and flooding. Stowing also is a highly technical auxiliary process to coal winning. It is carried out in several ways; hydraulic stowing with sand is the most popular in India. As already stated the Gondwana coals occur near the river valleys and near the coalfields of Jharia, Ranigunge and Bokaro, the Damodar and other rivers flow depositing large quantities of sand during the floods. Though doubts are now being expressed whether the availability of sand, to the extent required for the expansion of stowing, will be affected by the flood control measures to be taken in Bengal and Bihar, the existence of the rivers near the coalfields was considered to be a boon from the point of view of stowing. In large schemes of hydraulic stowing, sand is recovered from the river bed, either by pumping with water to the banks or by scraping. The pumps and scrapers are of varying capacities ranging to about 150 to 200 tons per hour. The sand is

conveyed from the river banks to the collieries by ropeways or, where mines are near the river, by haulage. In one case, there is a narrow gauge railway carrying sand to a group of collieries. This is one of the largest stowing schemes, serving three big collieries who between them stow about 1·2 million tons of sand per annum. There is also another Central Scheme catering to four large collieries where the sand is carried by ropeway. There are a few individual collieries also who have their own sand gathering plants and ropeways but such methods can be adopted only by large collieries. The sand delivered at the pit head of the colliery is mixed with water and sent underground through steel pipes of four to six inches diameter. The water and sand are conveyed by the force of gravity to the colliery face where the pressure built up forces the mixture into the goaves; the sand settles down in the form of a pack within temporary barriers built up of bamboo matting etc. and the water percolates out and is collected and pumped up. Some of the collieries can stow at the rate of 100 to 150 tons per hour. Because of its easy admixture in suspension with water and the fact that it packs tightly and water percolates freely, sand is considered to be the most efficient material for stowing and most of the large stowing plants in India use sand as the stowing material.

Hydraulic stowing is also carried out in India with crushed stone and ashes. Stone occurring near the collieries or taken out in sinking pits etc. is crushed to small sizes and sent down through pipes in the same manner as sand is sent down. It is quite effective but because of the fact that the packing is not as good, shrinkage is more and the throw and the range is limited, the efficiency of stowing may be less than when sand is used. However, stowing with crushed material is being carried out in several collieries and because of the saving in capital cost in plant for transportation, it may be suitable for a number of medium sized collieries in India where the materials for stowing are readily available.

The third form of stowing adopted in India is hand-packing or dry stowing. Here stone, muttee and other non-combustible surface materials are sent underground and packed by manual labour. The scope of such stowing is limited, the process is slow and because of the extent of labour involved, the cost is comparatively high. Large scale stowing cannot be carried out by this method and it can be utilised only for partial packing of galleries for stabilisation and the building up of barriers for the purpose of safety.

There are other methods of stowing practised in England and Germany which have not been applied in India. These are pneumatic stowing and mechanical dry stowing. In the case of pneumatic stowing, compressed air is utilised for sending the stowing material underground and or forcing it into the goaves. The capital cost of this method is high. In the case of mechanical stowing, the stowing material, which may be stone ash, colliery rejections etc. is sent underground through belt-conveyors, which deliver to a fast moving belt, which throws the material into the goaf. This, being a mechanical process can be utilised for large scale stowing in coal mines but as it has not yet been tried out in India, its suitability to Indian conditions has not been established though there is no reason to believe that it cannot be utilised in India.

8. The following statistics relate to stowing carried out in 1954-55:—

STATEMENT I

	Number of Collieries Stowing
(1) Collieries producing less than 600 tons a month	Nil
(2) Collieries producing 600-2500 tons a month	6
(3) Collieries producing 2500-5000 tons	11
(4) Collieries producing 5000-10,000 tons	12
(5) Collieries producing above 10,000 tons	30
	59

STATEMENT II

Collieries which stowed	No. of collieries	Quantity stowed Tons	Coal output from stowing areas Tons
(*i*) Less than 7,200 tons in a year	17	40,063	44,375
(*ii*) 7,200 tons to 30,000 tons	8	1,21,758	76,689
(*iii*) 30,000 tons to 60,000 tons	10	4,54,704	2,85,283
(*iv*) 60,000 tons to 120,000 tons	8	7,22,035	4,10,953
(*v*) 120,000 tons and above	16	37,85,068	24,24,107
	59	51,23,628	32,41,407

सत्यमेव जयते

Even though 59 collieries are stowing, in several cases, the stowing is on a small scale and the collieries do not have the plant or equipment for adequate large scale or complete stowing in their collieries. Possibly only 30 collieries have the equipment required for large scale stowing. Large expansion of stowing is necessary both for safety and for conservation, particularly in the production of coking coal. In most of the collieries in Jharia there are seams standing on pillars and in many cases the extraction of pillars with safety and without wastage is not possible, unless stowing is done. Stowing is also required urgently, we understand, in the Jambad Kajora area of the Raniganj Coalfield. We also understand that medium and small collieries are unable to invest capital on the stowing plant and machinery. Even though the Coal Board is granting assistance and loans for installation of stowing plant the expansion of stowing has been slow. If stowing is to be expanded to the extent required, we feel that the grant of financial assistance alone will not serve the purpose. It has been suggested to us that some mines in the coalfields have reached the stage where they cannot win much more coal unless hydraulic stowing was introduced. These mines require not only sand but also water as the mines themselves have little water for hydraulic stowing. The Coal Board should make arrangements for the supply of sand and also water in the case of collieries where stowing is urgent for safety and conservation of coal.

9. Small collieries by themselves cannot carry out stowing even if the materials were to be supplied by the Coal Board because of their small dimensions and small capital. They will have to instal the pumps and other fittings. In many cases they lack the technical know-how to carry out stowing. The supply of sand or other stowing materials to a large number of units will create administrative difficulties. If the collieries were amalgamated it would be possible for the Central Authority supplying stowing material to make supplies to a limited number of points where they can be utilised by the amalgamated units. Amalgamation of collieries into large units may enable the collieries themselves to do a certain amount of stowing by the use of crushed material.

We, therefore, feel that stowing for conservation and safety can be expanded by amalgamation of collieries and by arrangements to be made by the Coal Board to supply sand and other stowing materials including water where necessary to the collieries. We also consider that the Coal Board should carry out studies in regard to methods of pneumatic—and mechanical stowing and various methods of transport of stowing materials on a large scale.

Coal Washing

10. The coal that comes from the mine or from any particular seam contains portions which may be inferior and portions which may be of high quality. Even in good seams there will be some portions containing inferior coal. Coal washing is a process which separates the better portions of the coal from the inferior portions so that in the clean coal so produced a consistent quality is maintained. For washing, the coal is crushed to specified sizes. The fact that coal with a low ash content has a lower specific gravity is utilised in the various processes of washing. The simplest washer is the jig type of washer where the coal is fed into a tank containing water which is kept moving and the better quality coal is separated at the surface level. In the dense medium washers, the density of water is increased by the addition of finely ground solids like sand, magnetite etc. The ash content to which the coal is decided to be cleaned is determined first and specific gravity of the coal of various ash contents is determined by laboratory test and the washability curve of the coal is studied. The density of the washing medium is determined by these tests. The entire coal is delivered to the washer and the portion which floats on the surface is collected and transferred. This is the clean coal. In the rest of the coal there may be some proportion of inferior coal which is called middlings. This is separated from the middle of the washer and what is left, called the rejects, sinks down and is separately removed. Coal washing therefore is only a method of physical separation from the raw coal coming up from the seams the better coal of consistent quality within a given ash percentage. It is not a process of purification of inferior coal. In India only three washeries have been established and that too during the last three or four years. The first of these is at Jamadoba with a capacity of 300 tons per hour. Another is in West Bokaro with a capacity of 135 tons per hour; the third is at Lodna colliery with a capacity of 100 tons per hour.

11. The economics of coal washing are in favour of large composite washeries having a capacity of 300 to 500 tons per hour. To feed these washeries an annual production of at least 1·5 million tons of coal will be required and it is clear that it will not be possible for even some large collieries to instal washeries of their own. In small washeries the capital cost is high in proportion to the quantity washed, the yield of clean coal is low and the cost of washing per ton of coal is comparatively high; these may make washing uneconomic. Indian coals were at one time considered un-amenable to washing. Subsequently, research carried out by the Fuel Research Institute brought out the fact that Indian coals can be washed economically, even though they are difficult to wash, and that a reduction of 5 per cent. in the ash content is generally possible within the economic limits. Because of the difficult washing characteristics of the coal it is all the more necessary that washeries should be of large proportions. We have seen that the country's reserves of good quality coking coal are only about 1,300 million tons. We have also seen that there will be large quantities of inferior coal in reserve. Our reserves of iron ore are considered inexhaustible and with the vast industrial expansion we are planning and the new steel plants we are setting up, we shall be requiring increasing quantities of metallurgical coal every year. The production of metallurgical coal today is of the order of 13.5 milion tons of which 7 million tons is good coking coal which can by itself be utilised for the manufacture of hard coke. The balance, 6·5 million tons of Grade I and Grade II coal, can be utilised only after it is beneficiated or washed. In the period of the Second Five Year Plan, three new steel plants are to be established, and the requirement of coking coal, which today is of the order of 2·6 million tons for the steel plants will increase to 10 million tons. It was not considered wise to use the good coking coals to that extent, hence, it has been decided that all coking coals including the inferior qualities should be washed and utilised in the manufacture of steel. The requirements of coking coal will increase rapidly in the Third and Fourth Five Year Plans and it will be necessary to wash all grades of coking coal to reduce their ash content to make them suitable for the manufacture of iron and steel. Except in the case of large collieries, the solution of the problem of washing coals will obviously be found in the establishment of Central Washeries to wash coals obtained from various collieries. But to draw coal from collieries producing from 500 to 2,000 tons per month may present administrative problems. For example, the drawing of coal every day from 100 collieries producing 30 to 60 tons a day will involve much more administrative, technical and other problems than to draw coal from ten collieries producing 300 to 500 tons a day. If small collieries were amalgamated, it will be possible to draw coal of fairly uniform washability characteristics from a few mines to feed the Central Washery.

Blending

12. We have already referred to coal blending as a process of utilising coals which are not by themselves suitable for the production of metallurgical coal. Blending has not been practised on any large scale in India. It has been done only on an experimental basis. The possibilities of blending some of the good non-coking coals have been established by tests carried out by the Coal Blending

and Coking Research Committee. So far the production of metallurgical coal of good quality has been much more than the actual requirements of coal for steel manufacture and, obviously, the need for blending did not arise but with the increased requirements blending will be necessary in order that the limited resources of good coking coal are not rapidly exhausted. This, we understand, is receiving attention.

Rotation of Workings

13. When coal seams lie one below the other it is necessary that they should be worked in proper sequence. It may not be very harmful if the bottom seam is developed but when depillaring takes place as the final operation, depillaring carried out in the bottom seam may affect the stability of the coal in the top seam whether it is standing on pillars or is virgin. For this purpose, it is usually insisted that proper rotation of working should be followed. In the past, however, many collieries have, when encountering seams of inferior quality, left them alone and proceeded to work the lower seams and exhaust them. This involves the wastage of coal in the upper seam. If stowing is carried out during depillaring in the lower seam, the stability of the upper seam will not be disturbed. Ordinarily however, proper rotation of working in the various seams in a mine should be insisted upon and new seams should not be opened out of turn and worked out. With the promulgation of the Coal Mines Conservation and Safety Rules, this responsibility for controlling the opening of new seams is being discharged by the Coal Board. This problem of proper rotation of workings does not however, arise in most of the smaller collieries and it will arise in many of the larger collieries. If stowing and coal washing are introduced on a large scale this question will recede in importance. In the former case the seam above will remain unaffected and in the other case the colliery will itself work the inferior seams and good seams in proper order and wash the coals.

Waste in not working thin seams

14. There are several seams occurring in the Jharia Coalfield which have a thickness of 4 to 5 feet. In many cases the thin seams are not worked, because these are difficult to work. If galleries are cut only up to the height of the seams they will be difficult for the workmen to go into and work in. If the galleries are to be heightened it involves extra cost of stone cutting which increases the cost of coal winning considerably. These seams are therefore left behind and the next lower seam is taken up. This problem is larger in the larger collieries. It will be necessary to insist on the working of thin seams or to carry out stowing and other measures in the lower seams to protect these seams to enable their extraction at a later time.

Selective mining

15. In some of the seams the bottom portion may be of inferior quality and the top portion may be of superior quality. In some cases a section somewhere in the middle of the coal will be of good quality. It has been the practice in the past to mine the good quality sections, leaving behind the bad quality sections. After the seams

are worked out either in the top or in the middle or in the bottom and goaved, it is not possible to recover the coal left after the working of these sections is completed. As a result of such selective mining, large quantities of coal have been lost. Coal which was considered inferior in the past, might well be of good use today and this method of wasteful mining has been condemned by various Committees. The working of thick seams with stowing will, to some extent, save the loss of coal in selective mining. But that alone will not prevent it. We understand that the Coal Board, before granting permission to open new seams is examining this aspect of the question and does not generally permit seams to be mined selectively. Permission is also not ordinarily given to work a middle section or a top section of a thick seam in the initial stage and permission to work the bottom seam is given. It is also done on the condition that depillaring will not be permitted without stowing. When coal washing is introduced on a large scale, it stands to reason that the inferior and the superior sections would be worked together and washed and there will consequently be no inducement to work the seam selectively.

Recommendation

1. The proper re-estimation of the reserves of coal in India is necessary. We understand that a Committee is being appointed to draw up a procedure for estimation of reserves and to re-estimate the reserves of coal.

2. Measures should be taken to ensure the maximum extraction of coal; at the same time the maximum possible extent of safety in coal production should be ensured.

3. The Coal Board should make arrangements for the supply of sand and water in the case of collieries where stowing is urgent for safety and conservation of coal. Small collieries cannot carry out stowing even if sand were to be supplied. Stowing can be expanded by the amalgamation of collieries. Studies should also be carried out in regard to methods of pneumatic stowing and mechanical stowing and various methods of large scale transport of stowing materials.

4. Amalgamation of collieries will enable the Central Washeries to draw coal of fairly uniform washability characteristics from large units.

5. We understand that arrangements for coal blending are receiving attention.

6. Waste of coal in thin seams, and selective mining may be avoided by extensive stowing and washing.

CHAPTER IX

MODERNISATION AND MECHANISATION

Planning

1. It would be unnecessary to emphasise the importance of planning. It is impossible to work a mine efficiently without long-term planning of the development of projected working, and of the operations to govern the details of immediate workings. Integrated planning requires that we must avoid arranging our activities in separate compartments. It is necessary to avoid the mistakes of the past and to provide for the efficient layout of the underground workings and surface structures.

2. Long-term planning in *new areas* has been discussed at length in the U.K. 'Reid Report' on pages 120-131. Sufficient information must be collected by borings and geological correlation to obtain a picture of the general structure of the strata and of the amount of workable reserves. This information should be as complete as possible before deciding on the location of the shafts and the general layout of the mine. The daily and annual output, and hence the life of the mine, must next be determined; for upon these will depend the scale of facilities which will have to be provided. When the proposed output has been determined, the arrangement and capacity of the surface plants is to be decided; these plants should be planned and laid out as one complete working unit. The dimensions of the shafts, the winding and shaft-bottom arrangements, along with the dimensions, layout type of haulage and gradients for the main haulage roads, and the dimensions of the principal always have then to be determined. When the seam to be worked has been proved, the systems of mining, the general methods of working, and the machinery required, must be settled. The plans laid for the roads and winning the coal must provide, well in advance, for development work in future operations. During the laying-out of development plans, due considerations should be given to the problems likely to crop up at the depillaring stage.

3. The problems of planning in *a mine which is already in operation* are different, but the fundamentals remain the same. After deciding upon the method of work to be adopted at the coal-face, the pillars and road-layouts should be determined. Surface layouts may have to be re-arranged to co-ordinate the existing facilities. In any case, the details of mining operations must be planned and scheduled in advance with as much care as is given to the preparation of complete specifications and drawings in other branches of engineering. Several ideas will probably be suggested, revised and discarded before the final and best scheme is submitted. In execution, adherence to the plan, should be coupled with a measure of flexibility so that any necessary modifications and adjustments can be made.

4. In collieries, the object of any scheme of planning is to obtain coal with maximum safety and efficiency, and with minimum wastage of coal reserves etc. In the thicker seams of India, this can be achieved only if the extraction is carried out in conjunction with complete stowing operations. Under the conditions of strong roof stones and thick seams existing in India, bord and pillar method of work is most suitable, but at greater depths, the suitability of long-wall system is also to be explored.

Mechanisation

5. In this context, consideration must be given to the very low productivity of the Indian miners compared to those in other countries. The 1951 Working Party for the Coal Industry took pains to ascertain the cause of this low output per man-shift (OMS) and to find ways and means of increasing the same. The question of mechanisation of mines in an effort to increase OMS was also thoroughly discussed. As a result of these deliberations and discussions, the Working Party felt that all parties were anxious to increase the OMS 'so that the mine worker may earn more and the colliery may turn out greater amount of coal, decreasing the cost per ton.' It was represented to the Working Party that lack of discipline amongst the colliery labour was one of the causes of low productivity, and the Party felt that this should be eradicated with the help of the labour union officials so that this cause for low OMS can be overcome. On the question of mechanisation, the Working Party remarked:

> "It is interesting to note that labour representatives from whom the largest opposition to mechanisation was anticipated were found, one and all, to be almost ardent supporters of mechanisation under certain conditions, but the mining engineers of big companies who were mining coal with the help of machines were found to be less enthusiastic about the spread of or universal application of mechanisation. They were not enthused over the prospect of mechanising the coal mines on a larger scale and they accepted the proposals for mechanisation with some reservation."

6. Mechanisation of the harder operations of mining is essential to cut out the drudgery of human toil. But to be successful beyond that stage, mechanisation has yet to prove, under Indian conditions, its advantages in respect to productivity, cost and safety. Under the special conditions of lack of education and training of miners, low maintenance standards and paucity of repair facilities existing in our mines, the experience gained with mechanisation in other countries cannot be accepted without reserve in India. In the evidence tendered before us, it was submitted that in one of the most highly mechanised group of collieries in India, the OMS was low and the cost high.

7. Before we consider the question of 'mechanisation' of mines, we must be clear as to what we mean by the term. We have taken its conception *as the applied preference of the use of machinery to human effort:* and in this context mechanisation includes all operations of cutting, loading, transport, winding preparation and despatch of coal.

8. Besides the benefit of lightening any arduous work as stated above, mechanisation to be worthwhile must improve OMS and give greater production at lower cost.

9. While considering this question of mechanisation, the 1951 Working Party stated as below:

> "Truly speaking in this Machine Age, there is no other alternative left for rapid production, movement and preparation of coal except by some process of mechanisation. The age of pick, shovel sledge, wedge and barrow as the chief equipments of the miner is receding. During the last two decades, rapid strides have been made in all the progressive countries towards mechanising their coal mines and thereby achieving mining conditions to make the work of miners a safer and more paying occupation by replacement of man-power with machines. Engineers strove hard to find means of working the deposits of coal so that the underground mine would be a safer, healthier place in which to work and there would be saving of man-power. To-day in all progressive countries machines have been developed so extensively to do the work of men and men are trained in operating the machines so skilfully that a new age of greatly increased production per man has been ushered in.
>
> No country can escape the influence of this mechanisation. The modern coal mine has been compared with a great modern manufacturing plant. Machinery does the work which was once labouriously performed by the miner. Now the miner is a skilled workman, trained to supervise the machine he operates. Electricity furnishes the power to drive the machines.
>
> We are of the opinion that in order to improve the **OMS for Indian mines, *all future mines* should be well** laid out and correctly planned. While applying for opening permission each applicant or proprietor must submit to the Committee which gives the opening permission a future layout plan and the ways and means by which the mine is proposed to be worked. This control is necessary to ensure that future mines in India have the means at their disposal and also the necessary technical staff and assistance at their command to work the mines properly and efficiently. This will provide better lighting, good ventilation and adequate housing. A modern mechanised mine will be able to give the workers decent conditions of work."

We endorse these statements subject, however, to the provision that the extent of mechanisation should depend upon the amount of capital investment available. To obtain a certain output by mechanised means requires 4-5 times the capital needed to obtain the same output from non-mechanised mine.

10. Most of the mining experts who gave evidence before us were of the opinion that every scheme of mechanisation should start at the surface and extend gradually to the working face. There is some force in this contention.

Improving OMS in existing mines

11. In case of *existing mines*, we are of the opinion that there still exists a large scope for improving OMS by bringing about several simpler improvements in the working conditions, such as, supply of tubs at the face, lighting, haulage, ventilation, etc. which are long overdue.

12. In this connection, the following observations by the Working Party are relevant:

> "In the existing mines steps should be taken (i) to improve (a) ventilation, (b) lighting, (c) supply of tubs, and (d) hauling of coal, (ii) to have well laid out mines in case of virgin areas, and (iii) to inculcate in the workers a sense of responsibility so that they may improve their outturn of work. In order to induce a mine worker to give a better outturn piecerates should be introduced wherever possible. In addition to this, it may be definitely worthwhile to introduce incentive production bonus system, in a graduated scale to encourage a mine worker to earn more. It is also necessary to examine whether there is any further need for continuing the attendance bonus. We desire to increase the earning power of the mine worker. This can be achieved, in our opinion, by introduction of a unit of production. The bonus which is at present being paid purely on attendance should, in future, be linked with a unit of production.
>
> We also feel that to enable the colliery workers to have a better appreciation of a higher standard of living and their share of responsibility in the production, education of the general mass of colliery workers should be undertaken without delay.
>
> As stated above, if the OMS can be improved by taking steps indicated in the foregoing paragraphs to the desired extent there may not be any immediate necessity for taking up the question of mechanisation of working mines. This will save valuable foreign exchange and many problems arising out of mechanisation of mines. We may, however, point out that the world is going forward and it may not be out of place to mention here that a great advancement has been made in other countries in winning of coal by machines."

13. Regarding the availability of suitable machine, the Party remarked:—

> "In India where mechanisation in coal mines is yet at a low stage of development, there has yet been no growth of a manufacturing industry of coal mining machinery. One of the regrettable effects of this has been that it has not been possible to suggest the manufacturing of machines suited to Indian mines and keeping pace with the latest developments. We have to pick and choose between the various machines available in foreign

> markets and any possible contribution of our own genius is altogether lost to the country in the absence of any manufacturing industry in India."

We are in full agreement with these remarks.

Mechanisation in relation to amalgamation

14. We now come to the question of mechanisation in relation to amalgamation of collieries. Layouts for mechanised mining differ widely from the methods which have in the past been followed in most of the smaller collieries. Even after such working collieries have been amalgamated, therefore, there will not be any very large scope for mechanisation in the working seams and as we have stated earlier, it is not as, though there is very urgent need for it. It may be possible, and necessary for improving productivity, to re-lay haulage and loading arrangements underground and at the surface and to rationalise the line of faces in depillaring. But any large-scale alteration in the layout or in the method of working will, in the existing state of the industry and with the facilities available for producing, procuring and repairing machinery, not yield the best results. Mechanisation will however be possible and necessary when the lower seams lying virgin are worked by the amalgamated units.

15. We are also of the opinion that in the relatively safer operations of quarrying it is not necessary now to resort to the use of heavy machinery for the removal of overburden or coal. In all the small mines, quarries are worked manually and give employment to a large number of workmen. Intensive mechanisation of these operations after amalgamation is bound to create retrenchment without giving any corresponding benefit to the country. When, however, the stage is reached when the demand for coal cannot be met by the existing extent of mechanisation and the labour force is unable to cope with the increased demand, intensive mechanisation will be the only course left open to cope with the situation. We would like to stress, however, that before the introduction of intensive mechanisation at mines either in the open workings or in workings below ground, it is imperative that steps should be taken to set up works for the manufacture and repair of such machinery and sufficient facilities for training operators and maintenance men should be made available in all the coalfields.

Recommendation

1. Mechanisation of the hard operations of mining is essential to cut out the drudgery of human toil and to improve the O.M.S.

2. In the working seams of collieries there is no large scope for mechanisation. But virgin seams should be properly laid out and planned.

3. Intensive mechanisation will be necesary when the coal requirements of the country cannot be met by the present extent of mechanisation. But it is imperative that steps be taken to manufacture machinery and to train operators before such mechanisation can be effected.

CHAPTER X

PROPER SIZE OF A COLLIERY AND THE COLLIERIES TO BE AMALGAMATED.

Present Classification of Collieries

1. One of the first questions that came to the notice of the Committee was the definition of a small colliery. The various Committees, which recommended the amalgamation of small mines did not go into the definition of a small colliery and the factors to be taken into account in attempting to draw up such a definition. The expression 'small colliery' has been used mostly in a comparative sense and there has been no definite line of demarcation. The only existing system of demarcation is the one under the Mines Act and the Indian Coal Mines Regulations and the Department of Mines has adopted the following classification in connection with the management of collieries.

(a) Production upto 600 tons a month.

(b) Production from 600 to 2,500 tons a month.

(c) Production above 2,500 tons a month.

In regard to some welfare measures, such as the construction of houses and multipurpose Institutes either the monthly production or the number of labourers employed have been taken as the criteria. By and large, therefore, the size of a colliery has been based on the output thereof. But output by itself may not be a complete and correct guiding factor on which the line of demarcation between 'small' collieries and 'large' colleries can be determined because in the initial years of the working of a colliery, the output may be necesarily lower than its capacity and the output may be a wrong guide in regard to its size and capacity. But the various factors which determine the output of a colliery are possibly also the factors which, roughly determine the capacity of the colliery; for the output will depend on the area of the coal bearing land, the technical skill and equipment available for working the seams, the thickness and depth of the seams, the nature of the seam, the quality of coal, the geological and geographical conditions, the financial capacity of the owner and the efficiency of his marketing organisation, market demand and transport facilities.

2. The groupings, according to output, of the 734 collieries working in 1955 in the Bengal and Bihar is as follows:—

TABLE I

Below 600 tons a month	250	colliereis
600 tons to 2500 tons a month	236	,,
2500 tons to 5000 tons a month	90	,,
5000 to 10,000 tons a month	81	,,
10,000 tons to 20,000 tons a month	49	,,
20,000 tons and above a month	19	,,
	734	

If we take the output as the criterion and consider that the minimum output of a properly sized production unit should be 2,500 tons a month, 495 collieries will be small. If it is 5,000 tons a month, 585 of the 734 collieries will be treated as "small' collieries; if we take 10,000 tons as the minimum output, all except 68 collieries will be deemed as "small' collieries. There are 80 collieries producing more than 6,000 tons a month.

Classification according to araa, labour strength etc.

3. Under the Mineral Concession Rules, new mining leases for coal will be granted only if the area under lease is not less than 100 acres and is rectangular in shape, the length not exceeding twice its breadth. The minimum area and the specification of the shape of the property appear to have been laid down in order to facilitate proper and planned mining operations. The conclusion is obvious that a mine with an area of less than 100 acres cannot be planned to carry out mining properly. There are at present several collieries with areas below 100 acres. The following statement gives the number of collieries grouped according to the area of their leaseholds in West Bengal and Bihar according to information given by collieries in reply to our questionnaire.

TABLE II

Distribution of collieries according to area
West Bengal

	Number of Collieries	Total area in acres	Total annual production in tons
Area below 10 acres	1	5·00	16,408
" 10--20 "	1	16·66	4,625
" 20--30 "	1	21·00	12,543
" 30—40 "	5	179·21	22,200
" 40--50 "	1	45·66	13,507
" 50--60 "	3	163·30	30,856
" 60--70 "	1	66·00	12,044
" 70--80 "	1	70·00	17,271
" 80—90 "	6	510·38	1,70,286
" 90--100 "	4	373·50	30,575
" 100—300 "	53	9384·29	21,77,106
" 300--500 "	25	9077·15	18,94,635
" 500—700 "	14	8319·11	17,61,110
" 700—1000 "	10	8422·43	13,90,768
" 1000—1500 "	8	9138·17	9,69,317
" 1500—2000 "	4	6848·56	3,80,313
" 2000 and above	9	19938·10	9,19,275
	147	72,578·52	98,22,839

सत्यमेव जयते

Bihar

	Number of Collieries	Total area in acres	Total annual production in tons
Area below 10 acres	20	142	72,255
„ 10—20 acres	22	315·79	1,39,966
„ 20 –30 acres	21	496·61	2,72,411
„ 30 -40 „	37	1237·24	5,45,644
„ 40 -50 „	15	653·93	3,05,769
„ 50 -60 „	24	1245·29	5,69,416
„ 60 -70 „	18	1178·79	4,45,412
„ 70 -80 „	9	638·49	2,57,082
„ 80 90 „	12	1013·38	2,09,239
„ 90 -100 „	3	278·02	1,56,419
„ 100—300 „	85	14,905·80	37,40,637
„ 300 - 500 „	31	12,132·54	25,92,543
„ 500—700 „	12	7,124·30	10,56,854
„ 700—1000 „	15	11,746·34	25,76,035
„ 1000—1500 „	11	13,508·32	25,09,767
„ 1500—2000 „	3	5,227·04	6,49,875
„ 2000 and above	6	14,498·00	6,25,220
	344	86,341·88	1,67,24,544

सत्यमेव जयते

The figures above are in respect of only 491 collieries in West Bengal and Bihar of the 734 working mines. 24 collieries in Bengal and 181 collieries in Bihar have an area less than 100 acres. As among the 243 collieries who have failed to furnish data in reply to our questionnaire, the bulk happen to be very small mines, these figures are not however fully representative.

The Survey Party appointed by us collected further information regarding areas in respect of some more collieries and it has, therefore, been possible to present the following data regarding distribution of collieries according to the area of their leaseholds in respect of 656 collieries in West Bengal and Bihar.

TABLE III

	Number of Collieries	Total area in Acres	Total annual production in tons
0—10 Acres	42	305·58	1,13,530
11—20 ,,	62	909·95	3,06,069
21—30 ,,	45	1054·86	3,93,552
31—40 ,,	57	1909·39	6,55,430
41—50 ,,	23	1006·89	3,82,843
51—60 ,,	39	2032·58	7,44,401
61—70 ,,	23	1513·44	4,68,983
71—80 ,,	12	863·81	2,81,277
81—90 ,,	20	1692·42	4,17,147
91—100 ,,	9	834·85	1,87,391
101—300 ,,	159	27830·35	61,56,649
301—500 ,,	66	24783·34	47,39,011
501—700 ,,	29	17149·40	29,07,268
701—1000 ,,	25	20168·77	39,66,803
1001—1500 ,,	22	26643·15	34,88,814
1501—2000 ,,	8	13687·26	10,30,188
Above 2000 ,,	15	34436·10	15,44,495
TOTAL	656	1,76,822.14	2,77,83,851

It will be seen that of these 656 collieries 332 have an area less than 100 acres, 159 have an area of 100 to 300 acres and 165 have an area more than 300 acres.

4. The distribution of collieries according to labour strength is as follows:

TABLE IV

Distribution of Collieries according to labour strength

West Bengal

Labour strength	No. of Collieries	No. of Labour	Total annual Production (in tons)	Total acreage
0—30	5	45	31,281	839·66
31—50	5	207	13,544	688·55
	10	252	44,825	1528·21

Labour strength	No. of Collieries	No. of Labour	Total annual production (in tons)	Total Acreage
Brought Forward . .	10	252	44,825	1528·21
51—80	2	130	9,743	206·60
81—100	7	592	69,424	6,352·41
101—15	10	1,286	1,41,411	3,942·66
151—200	10	1,715	1,70,159	5,175·46
201—300	19	4,573	5,40,732	4,676·62
301—500	29	11,163	13,22,192	9,571·31
501—600	6	3,290	4,17,116	2,936·38
601—800	16	10,553	12,68,086	10,005·38
801—1000	9	8,106	9,40,663	5,395·37
1001—1500	6	7,635	6,21,933	2,391·16
1501—2000	10	16,752	18,58,650	7,968·24
2001—3000	5	12,385	12,61,051	3,342·76
3001 and above	4	17,276	13,98,354	4,719·85
	143	95,708	1,00,64,369	68,212·41

Bihar

Labour strength	No. of Collieries	No. of Labour	Total annual production (in tons)	Total Acreage
0—30	35	721	1,36,274	4,608·46
31—50	20	837	81,811	907·00
51—80	32	2,145	2,59,621	3,405·97
81—100	12	1,096	1,37,343	787·13
101—150	32	3,980	5,86,112	2,787·21
151—200	27	4,740	4,96,125	2,903·70
201—300	44	10,645	11,61,475	8,128·06
301—500	41	15,661	18,01,988	8,014·67
501—600	6	3,278	3,21,119	1,325·26
601—800	18	12,240	13,88,935	8,838·11
801—1000	8	7,232	7,65,749	2,249·44
1001—1500	15	17,854	17,43,352	8,345·43
1501—2000	11	17,983	18,73,984	6,001·48
2001—3000	11	25,406	23,24,966	9,803·47
3001 and above	10	62,721	35,79,979	12,117·10
	322	1,86,539	1,66,58,833	80,222·49

सत्यमेव जयते

It will be noticed that by far the groups with a labour strength of 200-300 and 300-500 are larger in number. The number of collieries with labour strength of less than 500 is 330 out of 458.

5. **TABLE V**

Collieries classified according to nature of ownership

	Bihar	West Bengal	Total	Output (in tons)
No. of collieries under undivided family	44	5	49	4,70,000
,, ,, ,, under Sole Proprietor	53	10	63	9,69,000
,, ,, ,, ,, partnership	93	28	121	26,96,000
,, ,, ,, ,, ,, Private Ltd.	59	38	97	43,47,000
,, ,, ,, ,, Public Ltd.	93	60	153	1,64,87,000
,, ,, ,, ,, ,, Govt. of India	4	..	4	19,84,000
,, ,, ,, ,, ,, Trust	2	2	4	98,000
	348	143	491	2,70,51,000

The relation of output to various factors and the economics of mining

6. A colliery with a small area and with small production may work economically only as long as it carries out mining at shallow depths. The amount of capital to be invested on machinery and plant will be small, much technical knowledge and equipment is not demanded to run such a mine and the small enterpreneur may be able to become a colliery owner with little investment. With limitations, therefore, it may be possible to run such a colliery as an economic unit, but it will not be possible to put in any large capital for labour saving equipments. Mechanisation may be economical for a small unit only to a limited extent.

Considering the small area and extent of operations, expenditure on modernisation and other measures may render the colliery uneconomic. Labour facilities on an appreciable scale consistent with modern standards may not be feasible.

7. In the consideration of working of deep seams, the question of the maximum depth at which a coal seam can be worked *vis-a-vis* the capital expenditure and the quality of coal and prices, has to be examined by the operator. Calculations have to be made of the lease area necessary or the quantity of reserves available in the seams, the capital to be invested and the average production required over a specified period of years to make it worthwhile to invest the capital, so that charges like depreciation interest, etc. are covered and a reasonable margin of profit is assured. Sinking of a deep pit and equipping the mine with the essential plant and machinery involves heavy expenditure and it will not be worthwhile to sink a deep pit and to install machinery and plant unless reasonable outputs can be obtained over a number of years. Hence, for deep seam mining, both minimum life and minimum area of lease have to be assured.

8. The output of a colliery may well be the index to gauge its capacity which, as already stated, is governed by practically the same factors. A colliery with a large area, but producing only a small quantity cannot be called a small unit, but it cannot also be called big colliery unless it has a substantial output. The area will have to be there to the extent necessary to enable a fair output. One approach to our problem therefore would be to start from a figure of minimum output of, say, 10,000 tons a month and to examine—

(a) what should be the capital requirements for a colliery,

(b) what should be the estimated minimum life of the colliery,

(c) what should be the reserves of the colliery in tonnage of coal,

(d) what should be the area of the colliery.

We have been given the following working formula by Shri Shome:—

> "Under the present price structure, down to Grade II Coal, the output should be 150 tons per day for every 100 feet of pit depth. Assuming the lease period to be of 60 years and taking into account the fact that in the initial five years and the last five years output cannot be high, the effective life of the mine may be 50 years. The total reserves required in a property would be 27 million tons and if the seam were to be ten feet thick the area of the property should be 1,700 acres. If there are more seams, than one, the workings will have to be carried out simultaneously in two or more seams. Hence, the following principles are to be adopted.

सत्यमेव जयते

Sl. Nos.	Depth of Pit to working seam		Minimum output per month in tons, or range of output	Workable area of property in acre	Life of colliery in years
1	Up to 300 ft.		10,000	This is to be calculated on the basis of reserves life & depth etc. of each seam of the colliery.	60
2	Between	300′ & 500′	10,000/18,000		60
3	„	500′ & 800′	18,000/30,000		60
4	„	800′ & 1000′	30,000/37,500		60
5	„	1000′ & 1500′	37,500/56,000		60
6	„	1500′ & 2000′	56,000/75,000		90
7	„	2000′ & 2500′	75,000/93,000		90

Various views regarding size of a colliery

9. The first question we put in the questionnaire which we sent to organisations, experts and Government Officials, was as follows:

> "A coal mine is expected to work the coal without avoidable waste, to follow the directions of Government regarding safety, stowing and washing of coals, to give proper facilities to labour and to have proper technical staff

etc. Keeping the above in view what, in your opinion, should be the proper area, shape and output of a colliery?"

The views are somewhat divergent and are summarised below:

TABLE VI.

Area	Shape	Monthly Output
1. 400 acres	Rectangular 2 X1	15,000 tons
2. (*a*) Depth 200 ft. 530 acres.	Square or as near as possible	20,000 ,,
(*b*) Depth 800→1200′ 730 acres.	Do.	35,000 ,,
(*c*) Depth over 1200′ 1170 acres	Do.	60,000 ,,
3. 300/400 acres	Do.	10,000 to 15,000 tons
4. 400 acres	..	25,00 to 30,000 tons
5. 200/400 acres	Rectangular 2 × 1	10,000 tons
6. 330 acres	Do.	10,000 to 30,000 tons.
7. 300 acres	Square or as near Retangular	20,000 to 30,000 tons.
8. —	—	40,000 tons.
9. 1600 to 2000 acres	Rectangular	25,000 tons.
10. 170 acres	—	10,000 to 25,000 tons.
11. 330 acres	Rectangular	25,000 tons.
12. 300 acres		10,000 tons.
13. Depends on thickness	Rectangular	5,000 to 10,000 tons.
14. 80 to 170 acres	Do. 2 × 1	10,000 tons.
15. 150 in Jharia 300 in Raniganj	Longer towards Dip	15,000 to 25,000 tons.
16. 170 acres	Rectangular 2 × 1	10,000 tons.
17. 330 acres	Rectangular	10,000 tons.
18.	Square Rectangular 2 × 1	12,000 tons to be increased to 50,000 tons.
19. 170 to 340 acres	Rectangular	12,500 to 20,000 tons.
20. 130 acres	Do.	10,000 tons.
21. 170 acres minimum (670 ideal)	Do. 2 × 1	10,000 to 30,000 tons.
22. 100 acres	Square or Rectangular	12,500 tons.
23. Not possible to give hard and fast rule. Shape rectangular.		
24. 300 acres	Rectangular 2 × 1	No comments.
25. 83 acres		5,000 tons.
26. 400 acres		25,000 tons.
27.		10,000 tons.
28. 2000 bighas		20,000 tons.
29.		20,000 tons.
30. 130 acres	Rectangular 2 × 2	10,000 tons.
31. 100 acres		30,000 tons.

10. From the views, it would appear that the output could be taken as the starting point and the other criteria could be derived from the output. The output need not necessarily be the persent output, but may be the potential output of the mine. It would be seen that in the views expressed to the Committee, the minimum output has been mentioned by some as 5,000 tons a month and the highest figure mentioned is 60,000 tons a month for a depth of over 1200 feet. It may be generally taken that the largest measure of agreement points to a minimum output of 10,000 tons. The views show great divergence in regard to what may be the area adequate to produce 10,000 tons a month and show a range from 80 to 400 acres. We have been informed by some of the experts in coal mining in this country that an area of 100 acres would be quite sufficient in the Jharia and Raniganj Coalfields where several seams occur in an area one above the other. In the opinion of Mr. L. J. Barraclough—"If an area of 100 acres were taken as square or rectangular with a length of 2400 feet and breadth of 1800 feet, it could be planned with the least loss in barriers. Having drawn up the barriers, the position of the shafts can be fixed and by proper planning the mine can give 200 tons per shift and can have a potential capacity of 1500 tons per day. The machinery and equipment required will be determined by the fact whether it is to be a shallow or a deep mine."

Mr. A. A. Beard was of the opinion that "per foot of coal seam an area of 100 acres will give 1,50,000 tons of reserve and with a thickness of 50 ft. the coal reserves would be 6 to 7 million tons. The mine would be able to produce 10,000 tons a month for 40 or 50 years. Where the seams are fairly close together, as in Jharia one or more seams may be worked simultaneously and it would be possible to get a production of 10,000 tons per month by proper mining."

11. One of the witnesses examined by us expressed the following views:

"*Small* should be in terms of the capital investment in it for the time being and of the potentiality for a capital investment of the leaseholder himself. If a colliery has got very little capital investment and no potential capacity of investment, many consequences follow. Its output is low, if any measure is to be taken to increase its output by a scheme of stowing, or mechanisation or beneficiation, it would be beyond its capacity altogther. A colliery is small when it has small capacity and when its means are small......I cannot say that a small colliery is necessarily uneconomic. But it has no potentiality for expansion."

From the point of view of labour benefits, the Coal Mines Welfare Commissioner was of the view that in a mine of 500 labourers it would be possible to plan welfare measures adequately. This may also lead to the conclusion that a mine having less than 500 labourers may be a "small" mine.

Our Conclusions

12. The fact emerges that the majority of collieries in Bengal and Bihar are not large. In England there are only 1400 collieries producing an output of 200 million tons. In Holland there are only

12 collieries producing an output of 12:5 million tons. In the U.S.A. there are stated to be 10,000 collieries producing 450 million tons. In Germany and France and the various coal producing countries of the world, the output in relation to the number of collieries is large. In India we have 834 collieries producing barely 38 million tons of coal; in Bengal and Bihar 734 collieries produce 30 million tons.

The general consensus of opinion given in evidence and in replies to our questionnaire is that the minimum output of a colliery should be 10,000 tons a month to enable production according to proper standards.

We are inclined to accept this view that the minimum output of a colliery should be 10,000 tons, if it is to carry out mining in a planned and scientific manner, adopt modern standards and provide adequate facilities to labour.

Proceeding on the basis of a minimum output of ten thousand tons a month and taking the average active life of a coal mine as 50 years, we find that the extractable reserves of a colliery should be of the order of 6 million tons. Providing for loss in barriers and other factors, it may be safe to assume that the reserves should be of the order of 7 million tons. Per foot of thickness of coal seam, per acre, the reserves are estimated, in a virgin seam, to contain 1500 tons. Assuming the total thickness of the coal seams as follows, the corresponding area required for reserve of 7 million tons, will be as follows:

10 feet	475 acres.
20 ,, ...	240 ,,
30 ,, ...	180 ,,
40 ,, ...	120 ,,
50 ,, ...	100 ,,

In view of the expert opinion that an area of 100 acres would be sufficient to enable a production of 10,000 tons a month in the Jharia and Raniganj Coalfields, we are of the view that this should be the minimum area of any colliery property. This is also the minimum area laid down for new leases under the Mineral Concession Rules; the shape of the colliery property should as far as possible be rectangular, the length being not more than twice the breadth.

13. From our conclusion that the minimum output of a colliery should be 10,000 tons a month, that the area should be such as to produce this quantity of coal over a period of 50 years and that the area should not be less than 100 acres, it naturally follows that any colliery which does not fulfil these criteria should be listed, for amalgamation. During our discussions, the question arose whether 10,000 tons should be the actual output or the potential output. It

was pointed out that there were several collieries which could produce 10,000 tons if transport was available and that it was unnecessary to amalgamate them with other collieries. The term potential output is much too indefinite and the potential output of any mine may be determined at different levels by different persons. We have, therefore, agreed, subject to the reservation that follows, that those collieries, which do not at the time of implementation of the schemes of amalgamation, fulfil the minimum criteria mentioned should be amalgamated. We expect that in the next few years because of the better transport facilities that may be expected and greater demand for coal, it may well be possible for collieries to increase their output. The fact has been stressed during our discussions that there are many collieries which can produce 10,000 tons a month if there was a demand for coal and adequate transport for the output. The demand might increase in the next two or three years, but not to such an extent as to enable these collieries to raise 10,000 tons. It was, therefore, urged that such collieries should, after the examination by the Statutory Body, we are recommending, be exempted from the scheme of amalgamation. We have had prolonged discussions on this matter and have concluded that any colliery producing more than 6,000 tons, but less than 10,000 tons a month may be excluded from the scheme of amalgamation, if the Statutory Body is satisfied that they are capable of increasing their production to 10,000 tons within a period of one year if demand and transport were available for their output.

14. There may be other special circumstances, in which a colliery which does not fulfil the minimum criteria regarding area and production may not be amalgamated. A new modern colliery with large potentialities which has not yet reached normal production may have to be excluded. A colliery with vast areas and reserves may, due to special reasons, be having a low output and some special steps to increase its output may be more suitable in such a case rather than amalgamation. A small colliery nearing exhaustion of all its seams may well be left alone. We, therefore, suggest that where due to special circumstances, the amalgamation of a colliery is not expedient or advisable or in the public interest, it may be excluded from the scheme of amalgamation, and the Statutory Body which we are suggesting should be given the necessary discretionary powers.

15. During our discussions, it has been strongly urged that in the case of collieries producing Grade III coals, for reasons of lack of adequate demand and want of transport facilities, the production is generally low. If the demand and transport were adequate, these collieries could produce larger quantities. But in the immediate future there would be no need to increase the production of these grades of coals. It was, therefore, suggested that the Commission, should, if it were satisfied that such collieries should not be amalgamated due to these considerations, have powers to exclude such collieries from the scope of amalgamation or to fix lower minima regarding output. We would however point out that the proposed Statutory Commission should have discretionary powers to exclude from the scope of amalgamation any colliery for special reasons. The owners of the collieries producing Grade III Coal could present

their case to the Commission; it will be open to the Commission to take decisions as it thinks fit after examining the various aspects of the question.

We have not suggested the inclusion, in the scheme of amalgamation, of any collieries producing more than 10,000 tons a month and having an area of more than 100 acres. In some of these cases also amalgamation may minimise waste of coal in barriers and help in better exploitation of coal. We hope that it will be possible for collieries to carry out amalgamation in some of these cases also, voluntarily in their own as well as in the national interest.

Summary

Of 734 in West Bengal and Bihar, 666 produce less than 10,000 tons a month. Of 656 (out of 734) collieries in respect of which figures could be collected 332 have an area less than 100 acres. Judged by the criteria of production and area, the bulk of the collieries are small.

Recommendation

Output.—In view of the fact that a colliery is expected to work coal without avoidable waste, follow scientific and efficient methods of mining and exploitation of coal, adhere to and implement all labour legislations, by giving adequate facilities and amenities to labour, avoid unnecessary wastage of coal in boundaries and in the support of surface features, the Committee considers that the output of any colliery should not be less than 10,000 tons a month.

2. *Area.*—The area of a colliery should be such as to be able to produce 10,000 tons a month for a period of 50 years but the area should not in any case be less than 100 acres.

3. *Amalgamation.*—Any colliery which at the time of the implementation of the scheme of amalgamation is not producing in the region of 10,000 tons per month or has an area of less than 100 acres should be amalgamated with one or more collieries or part or parts thereof.

4. *Amalgamated unit.*—The amalgamated unit shall consist of such number of collieries or part or parts of collieries as to fulfil the criterion regarding minimum production of 10,000 tons a month.

In forming such units due regard should be paid to the existence of fires, flooded areas, important surface features, such as, railways, roads, rivers etc. and the natural disturbances encountered in or about the area so as to ensure maximum recovery of coal.

5. *Discretionary power.*—(a) Notwithstanding anything contained in the preceding paragraphs, the Commission may exclude any colliery from the amalgamation scheme, if it is satisfied that due to special circumstances, its amalgamation is not advisable, or expedient, or in the public interest.

(b) It may also exclude from the scheme of amalgamation, collieries producing more than 6,000 tons of coal per month but less than 10,000 tons, if it is satisfied that such collieries are capable of producing 10,000 tons per month within the period of a year, if demand and transport were available for their output.

CHAPTER XI

THE OBJECTIVES AND SCOPE OF AMALGAMATION OF COLLIERIES

In our terms of reference, we have been asked to undertake a survey of the present position regarding collieries in West Bengal and Bihar with a view to their amalgamation into single economic units. We have been asked to take account of the principal relevant factors including the area of holdings, the current output and capacity of the collieries, geological, geographical and other relevant features, the need for efficient production etc.

In order to gather more detailed information and to study largely the technical aspects of the problem of amalgamation and adjustment of boundaries, we appointed a Survey Party consisting largely of Mining Engineers familiar with these Coalfields. They inspected 110 collieries in different parts of Bengal and Bihar and have submitted a report, which is enclosed as an Appendix to our report. Their report is valuable as providing material for consideration of the issues referred to us and has dealt with certain technical aspects regarding amalgamation and adjustment of boundaries. The Survey Party collected plans of almost all collieries in Jharia and Raniganj and drew up tentative groups of collieries which may *prima facie* be considered for amalgamation. These groups were based on their view that the minimum area of a colliery should be 1,000 bighas. As we have come to the conclusion that the minimum area should be 100 acres (300 bighas) these groups will require several modifications. We have not been able to examine the groups in detail and to make changes. We are recommending that schemes for amalgamation should be drawn up by a Statutory Body after detailed enquiries. We are not therefore presenting the grouping made by the Survey Party in our report.

The General Scope of Amalgamation

2. After the achievement of Independence, India is planning large scale industrial expansion. We have large reserves of iron ore and we are going to multiply our output of steel several times. We are plannnig the expansion of various industries on a large scale. Coal is the basic source of energy for such industrial purposes. The production, which is 38 million tons has to be increased to 60 million tons by the end of 1961. In the period of the Third Five Year Plan this figure may well be doubled and the expansion of production required in the successive five year plans will also be rapid. A good part of the production will come from new collieries to be started by Government. But the existing collieries too must play their part. A structure of the industry with weak producing units, existing in close physical proximity but working in isolation as separate ventures may not be able to play any effective part and to contribute in any substantial measure to

the requirements of the country. It requires consolidation, unification, rationalisation and modernisation. It is only then that the structure of the Industry will be strong.

Small mines cannot have proper technical supervision, sufficient machinery and plant and adequate capacity to enable the maximum production of coal. Production of small collieries could be confined only to shallow seams. Where deep seams are to be mined, larger capital investment will be required, the areas should be large and mechanisation should be of a higher degree. That will require units of large size and these will be possible only by amalgamation. In large units, it will be possible to plan and implement labour amenities according to proper standards and with the industry divided into a smaller number of units of large dimensions, uniformity of standards for such amenities, wages etc. can be achieved. The formation of large collieries will facilitate various measures like stowing and coal washing and will above all make it possible to bring about greater co-operation between the various undertakings. With a large number of small collieries, this will not be possible.

Seam-wise fragmentation of collieries

3. There is an aspect of fragmentation of collieries where the different seams within a property are given on lease to different proprietors. There are also cases where the lessor works the better seams of the property and also allows "Managing Contractors" to work the seams of lower grade, particularly Grade II and below. In the former type of fragmentation there is no co-ordinated working and there is no proper rotation of working the seams and coal is normally lost by such arrangements. In the system of working by the managing contractors also, we are told, there are several difficulties, though the lessor himself is expected to control the working seams. It has been pointed to us that when a colliery company with its own technical experts finds it unprofitable to exploit a seam, it gives the right to work that seam by managing contractors, who, in addition to making a profit, also pay a commission to the colliery company and that this would be possible only by lowering the standards in regard to proper mining and remuneration and amenities to labour. On the other hand, it has been stated that the system of appointing managing contractors under the overall control of a large colliery is not harmful and that it helps in increasing production. In any case, the fragmentation of colliery properties by seams and working by different owners of different seams is not conducive to efficient mining and is against the interests of safety and conservation. All existing cases should be reviewed and amalgamation effected of the various undertakings whenever necessary. This review should be carried out by the Statutory Body.

Non-contiguous collieries

4. There are several cases of non-contiguous collieries particularly in Bihar. This is because these areas in Bokaro, Karanpura, Ramgarh and other areas of Bihar have not been fully prospected and some small operators had leases of properties and started exploiting coal mainly for local sale. The seams are also generally

of inferior quality. Deep mining is perhaps difficult; the present being the stage of early exploitation of these areas, most of the coal is won by quarrying. As is natural in a field which is in a semi-primary stage of exploitation, these areas contain a number of small collieries which are not contiguous. It will not be of any advantage to combine such non-contiguous collieries under one management. The question of amalgamating or absorbing them may be considered when larger collieries are started in the contiguous areas.

Amalgamation of working seams

5. We have been told about the difficulty of amalgamation of working seams in collieries. Let us take for example, an area of one thousand bigas where there are six or seven collieries at present, the coal seams occur one below the other. One colliery might have exhausted a particular seam and have gone further down to exploit lower seam. Another might have reached only the second stage, depillaring, in the top seam. A third might be developing the seam. Taking the overall picture in the amalgamated unit—if these mines were amalgamated, a particular seam may in some place be goaved and waterlogged, in another under depillaring and in a third under development. In one area there may be a fire, kept isolated by the colliery. The fear has been expressed that by amalgamation the chances of the spread of fire outside the limits of the individual colliery are increased. Technical experts who have replied to our questionnaire and also those who gave evidence before us did not consider that this will stand in the way of the amalgamation of the collieries. Perhaps, after amalgamation, seams will have to be exploited in separate sections. But with an overall control, the more competent technical experts of the amalgamated concern will be in a position to concentrate workings in such a manner as to first exhaust the seams which have been widely exploited in the group and after exhaustion thereof, plan the overall working of the lower seams. It would also be possible for them to draw up advance plans for the systematic working of the virgin dip areas and the waterlogged areas, which the single small proprietor could not have tackled and which would have gone to waste.

The exploitation of virgin seams

6. The country needs large scale production of coal in the coming years. Coal has been worked in various areas in days when there was little or no control over the methods of mining. In many of the collieries, workings, particularly in the seams of better quality coal, were developed long before the new Coal Mines Regulations restricting the size of pillars and dimensions of galleries came into force and the seams were badly developed. After these seams are exhausted, the exploitation of the virgin seams should be properly and scientifically planned to enable the maximum extraction of coal. If in the new seams patches are exploited by small collieries large scale planning of production by modern methods may be rendered more difficult. Before the virgin seams are opened, therefore, it is necessary to ensure that they are properly planned and properly worked and that the properties are large enough to enable such methods to be implemented. Some of these seams lie very

deep down and it is not possible for small units individually to sink deep pits for working seams like the No. 1 seam or the Zero seam in Jharia and the deeper seams in the Raniganj field. It is essential that the area should be large and that sufficient capital should be invested and modern methods should be adopted. It would be possible only when the properties are amalgamated.

Discontinued Collieries

7. There are several collieries which are closed down. We come across quite a number of them both in the Jharia field and in the Ranigunge field; they are more numerous in the Ranigunge field. The reason for this is that in the Ranigunge field the seams are generally deeper down. The partition between seams is also great. To go down to the deeper seams, shafts are to be sunk at a fairly high cost which the small colliery owner is not in a position to do So having exhausted the shallow seam which was first exploited the small proprietor closes the mine though there may be other seams deeper. There may be also cases where the owner considers it uneconomical on some grounds or other to exploit the coal in the mine. To him the value of the coal is in the profit per ton which he is to gain by extracting it, bringing it to the surface, processing it, and marketing it. If it is not going to give an adequate margin of profit or if large capital is to be invested, which he cannot put in, he may close his mine. Where closed collieries with sufficient coal in reserve are contiguous to some of the smaller mines, there is no reason why they should not be amalgamated with the neighbouring mines. In a large unit, it may be possible to invest more capital and to exploit the coal more economically and to work the deeper seams with better equipment.

Summary

We have outlined in Chapter X the size and production criteria which should be fulfilled by collieries and recommended that collieries which do not fulfil these criteria should be amalgamated and that the Commission may in special cases exclude from the scheme any collieries. All contiguous collieries which do not fulfil these conditions and which are not exempted by the Commission should be amalgamated. We do not anticipate generally any technical difficulties arising out of the different collieries having the seams in different stages of development. In the cases of non-contiguous collieries and particularly those existing in Karanpura, Ramgarh and Bokaro, and other areas of Bihar, amalgamation is not possible now but they may be amalgamated with any contiguous collieries which may be opened in future. The cases of horizontal fragmentation where separate undertakings work different seams in the same property should be investigated by the Commission. The system of appointment of Managing Contractors for different seams may also be worthy of study by the Commission.

Recommendation

Seamwise fragmentation of collieries should be permitted only in special cases in the interests of the country. Cases of such fragmentation should be examined by the Commission and wherever necessary in the interests of safety and conservation, suitable remedial action taken.

CHAPTER XII

METHODS AND PROCEDURE OF AMALGAMATION AND ADJUSTMENT OF BOUNDARIES

Methods of Amalgamation and adjustment of boundaries

1. The desirability of the amalgamation of collieries with small areas and small output has been recognised for over three decades in India. But little has been done by the owners of collieries themselves to effect such amalgamation; there are, no doubt, some legal difficulties arising out of the terms of leases, rights of royalty owners etc. which would be affected by and which stood in the way of amalgamation. There was also no incentive to such amalgamation; on the other hand the individual owners had personal advantages in remaining separate. There have, however, been a few stray cases of two collieries being amalgamated mainly in cases where the two properties belonged to the same owners. But there are still several contiguous properties which in fact belong to the same owners, but exist as separate units. There has been no amalgamation of collieries with a view to create large production units and consequently to enable planned and proper mining. Even now, though some sections of the Coal Industry are in favour of amalgamation as a step in the right direction, there are several who are unconvinced by the advantages and are opposed to amalgamation. There are even some among them who would prefer nationalisation to amalgamation.

Voluntary amalgamation would be the easiest way to implement the policy. But we see very limited chances of such amalgamation taking place. The Indian Colliery Owners' Association stated in reply to our questionnaire that voluntary amalgamation on a co-operative basis is the best and most effective method to effect amalgamation of collieries—*should this be found necessary in national interests.* They suggested that the legal difficulties should be obviated by modifying the Mineral Concession Rules and bringing about uniformity of lease terms. But in our discussions with the representatives of that Association, we were given the impression that their members, particularly the owners of the small collieries among them, were not in favour of amalgamation. The Indian Mining Association and Indian Mining Federation were of the opinion that voluntary amalgamation of small collieries was likely and that no insuperable legal difficulties were anticipated. They were in favour of voluntary amalgamation being encouraged. They suggested that the Chief Inspector of Mines should be given powers to investigate and report to a Statutory Body regarding the small collieries to be amalgamated. The Statutory body should call upon the collieries to voluntarily amalgamate and allow a period of two years. In default, the Statutory Body should have powers to decide upon the terms of amalgamation. The majority of the persons who replied to our questionnaire and gave evidence before us have, however, expressed the view that voluntary amalgamation was not likely to the extent required.

In regard to the time limit to be allowed, the views have been varied. The period suggested ranges from 6 months to 3 years. But many favour a period of only 6 months. Some have suggested that no time limit should be allowed and if time were given, it would be harmful to the national interests as the opportunity would be utilised to win cheap coal during the period, causing more waste and greater danger. This has been denied vehemently by some witnesses on the ground that the Mines Act controls the working of collieries and that bad mining is not possible. We feel that an opportunity should be given to owners to amalgamate their mines, where such amalgamation is necessary. Voluntary amalgamation should not, however, be haphazard and should conform to a pattern and fit in with a general scheme and this can be achieved only when such amalgamation is also examined and approved by a statutory authority.

The machinery to draw up schemes

2. We do not expect that many schemes of voluntary amalgamation will materialise. Powers should, therefore, be taken by Government to enforce amalgamation where in the interest of efficient and economic mining of coal and processing by methods like coal washing and in the interest of conservation such amalgamation or adjustment of boundaries is necessary. The very fact that Government have armed themselves with such powers might force the pace of voluntary amalgamation. The power to draw up schemes of amalgamation and to implement them should be vested in a Statutory Body.

Various views have been stated in regard to the composition of such a body. Some suggested that the powers should be given to the Coal Board or the Coal Controller. But most are in favour of setting up a statutory body with a predominance of mining engineers. The Indian Mining Association and Indian Mining Federation have suggested that the statutory body should consist of a retired High Court Judge, with three assessors, a retired Accountant General, a senior Mining Engineer and a non-official commercial representative. We have examined this suggestion in some detail. We feel that the Commission should consist of three members, a person of the rank of a High Court Judge as Chairman, a senior Mining Engineer and a senior accounts expert. The necessity for a non-official commercial person in the Commission was urged before us, but as amalgamation actually involves technical, financial and legal issues, we do not think commercial representation is necessary in the Commission.

This Commission which may be known as the Collieries Amalgamation Commission should carry out a detailed investigation in regard to the collieries in Bengal and Bihar. The Survey Party has made some studies and submitted a report. This Party was handicapped by lack of time and they themselves suggested that detailed investigations which were not possible should be carried out by some other body. The Commission, may, if they so desire, make use of the material and plans collected by the Survey Party. The Commission will require a staff of investigators for the purpose, who should be appointed as early as possible.

After collecting the information the Commission should proceed to draw up schemes of amalgamation and adjustment of boundaries. Any scheme of voluntary amalgamation and adjustment of boundaries which may be proposed by collieries should also be notified to the Commission and should be given effect to only after receiving the approval of the Commission. In the case of any scheme, the Commission should call for objections, hold hearings and make an award and should be vested with powers of a Tribunal to hold such enquiries under the Investigation Commission Act—1952.

The number of collieries now working in Bengal and Bihar is 734. There are also several mines which are closed. The detailed study of the collieries and the preparation of schemes, the hearing of objections etc. will take time, as we expect that amalgamation and adjustment of boundaries will affect in some way almost all the collieries in the area, particularly the 664 collieries working in Jharia and Ranigunge. The question arises whether one Commission would be able to complete the work within a short period. It was suggested that one or more regional Boards might be appointed. Another suggestion was made that Government may set up more than one Commission, if the volume of work was large. The question also arose whether, in the event of more than one Commission being appointed, uniformity in the decisions of the Commission may not be affected. We suggest that Government may examine whether more than one Commission will be necessary and if so whether they should have a common Chairman to secure uniformity of policy.

The question of representation of the State Governments concerned was also placed before us. We suggest that the appointment of the Commission or Commissions may be made in consultation with the State Government of West Bengal and Bihar, but we do not agree that the States should be represented on it.

Voluntary amalgamation before the appointment of the Commission

3. Because of the fact that amalgamation, voluntary or otherwise has to be effected according to plan, there is a hope that those who are sitting on the fence and watching what are the developments that are coming, will, on the publication of our report hasten to effect voluntary amalgamation and adjustment of boundaries wherever possible. We are not very sanguine about it, but we are also anxious to encourage such amalgamation, for it can to some extent reduce the very heavy work we anticipate the Commission may have to do. We, therefore, suggest that immediately after the submission of our report, the Government of India should set up a Committee consisting of three mining engineers to examine any scheme of voluntary amalgamation which the collieries might draw up. The Committee may be composed of the Chief Inspector of Mines, The Chief Mining Engineer, Coal Board and another Mining Engineer in the service of Government. All schemes of amalgamation should be submitted to this Committee. The Committee will

examine such schemes, modify them where necessary and communicate them to the collieries within a period of one month of receipt of their applications.

We have noticed that there is at present no ban against voluntary amalgamation. But permission of the Chief Inspector of Mines is necessary for removing barriers between collieries and such permission is generally granted if safety is not affected. Voluntary amalgamation can therefore be carried out now by collieries without any official interference. But there will be the apprehension that when the Commission draw up their schemes and find that amalgamation carried out before these investigations are not of a pattern to fit in with their scheme, they may review it and alter the pattern of amalgamation already effected. Such a contingency may be avoided if these schemes are, before their implementation, examined by a Committee of experts. We have recommended that the minimum area of a colliery will be 100 acres, that it should produce not less than 10,000 tons and should have sufficient reserves to enable a production of 10,000 tons for at least 50 years. These criteria should generally apply to any amalgamated unit which may be formed voluntarily.

However, as we have accepted the principle that any colliery producing 6,000 tons or more may be excluded from the scheme of amalgamation, provided it can be proved to be capable of producing 10,000 tons, we agree that a unit to be formed by voluntary amalgamation should have a minimum output of 6,000 tons per month and should be capable of increasing its production to 10,000 tons, if required, within a period of one year.

The procedure and the Time Table

4. We expect that our report will be submitted to Government by the 31st October, 1956. We would suggest that the Government of India may immediately consult the State Governments and prepare for the necessary legislative measures. Simultaneously, steps may be also be taken for the appointment of the technical and other staff required for collecting the material required for the Statutory Body.

The legislation may have to be passed as quickly as possible and we expect that the Act and the Rules under the Act, will be ready by 31st March, 1957 and that it would be possible to appoint the Commission and its staff by the 30th April, 1957. We would like to point out that because of the temporary nature of the work and the urgency to proceed with it, Government should decide that appointments should be made by the Government or the Chairman of the Commission and that reference to the Union Public Service Commission will, not be necessary. Otherwise, we except considerable delay in recruiting the staff and getting on with the work.

The collection of material for the Commission should be completed within 6 months from the appointment of the Commission. We recommed the appointment of an adequate number of whole-time technical officers to enable the work to be completed within this period. We suggest that the collection of material should be completed by 30th September, 1957.

All collieries who have voluntary schemes for amalgamation and adjustment of boundaries, which have not been put up to the temporary Committee before 30th April, 1957, should be required to submit their schemes before the Commission on or before 30th September, 1957. The Commission may examine the scheme, hear evidence from various parties and come to a decision on the scheme. The Commission's decisions should be final and should be given effect to by the parties.

After collecting the material and also seeing the cases of voluntary amalgamation proposed, the Commission should draw up their own schemes for amalgamation and adjustment of boundaries. This should be completed by 28th February, 1958 and the Commission should issue notices to collieries asking them to submit their objections, if any, to the schemes proposed, within two months. The period of notices is expected to expire by 30th April, 1958.

The Commission will take up the objections received in each case, hold hearings, and give an award specifying a date, not later than 31st January, 1959 for implementing the award. The collieries should thereafter take steps to implement the award. The Rules to be made by Government should provide for penalties for failure to submit schemes to the Commission within the time prescribed and to implement the schemes.

In their award the Commission will have to describe the areas and properties to be amalgamated. Where the owners of the collieries agree among themselves about the shares of each participating unit, the Commission may approve of their scheme. Where they do not so agree, the Commission will have to fix the shares after valuation of the collieries according to the procedure which we propose in a subsequent Chapter. The Commission should, therefore, have powers to make valuation of the collieries.

The time table we have proposed above probably leaves insufficient time for the various steps suggested at each stage. We ourselves feel that unless the Government and the Commission proceed with utmost expedition, it will not be possible to follow it. But we feel that after publication of our report very little time should be allowed to pass by. The fact that amalgamation has been recommended and is decided upon may have the effect of disturbing a number of colliery owners. There may be a few who may adopt bad mining practices with a view to earning more profits. There may be others who will try to sell away their properties. The various currents and cross currents may have a disturbing effect on production, safety and conservation. For these reasons, once a decision is taken, no time should be lost.

Recommendations

1. The Central Government shall, in consultation with the Governments of West Bengal and Bihar appoint a statutory body, called the Collieries Amalgamation Commission consisting of a Chairman of the rank of a High Court Judge and two other members, one

being a Senior Mining Engineer and the other a Senior Accounts Expert. This Commission will draw up a scheme of amalgamation of collieries and adjustment of boundaries, hear objections and give decisions regarding the same.

2. If the Government consider it necessary they may in order to expedite the work appoint two or more Commissions. They may also decide upon a common Chairman if considered necessary to ensure uniformity.

3. The Commission will be authorised to hold enquiries for the discharge of their function and as such will have the powers of a Tribunal under the Investigations Act 1952.

4. All schemes of voluntary amalgamation and adjustment of boundaries will be notified to the Commission by the parties concerned.

5. The Commission will take all necessary steps for the purpose of implementation of the scheme of amalgamation of collieries and adjustment of boundaries including valuation of collieries.

The Time Table

Submission of the Report	31-10-1956
Legislation	31-3-1957
Appointment of Commission and Staff	30-4-1957
Collection of material for the Commission completed by	30-9-1957
Receipt by Commission of notices of voluntary amalgamation and adjustment of boundaries to be effected by collieries	30-9-1957
Approval by Commission of such voluntary amalgamation	28-2-1958
Completion by Commission of schemes of amalgamation and adjustment of boundaries	28-2-1958
Expiry of notices to collieries to submit objections to the scheme (Clear two months' Notice)	30-4-1958
Award of the Commission on the objections	31-7-1958
Date of implementation of amalgamation and adjustment of boundaries	31-1-1959

7. The Central Government should appoint a Committee of three of its technical officers with powers to examine all proposals for voluntary amalgamation emanating from the collieries, till the appointment of the proposed Collieries Amalgamation Commission.

8. The Committee will examine and modify when necessary and give its decision on any proposal submitted to it, within one month from the date of receipt of the scheme.

9. An amalgamated unit formed voluntarily should have a minimum area of 100 acres, a production of 10,000 tons a month, sufficient reserves and proper shape; but a unit may be formed to give an output of 6000 tons a month if it can be increased when necessary to 10,000 tons a month within one year.

CHAPTER XIII

CENTRAL LEGISLATION REQUIRED

The position regarding Mineral Rights

1. We have already stated that in the permanently settled areas of Bengal and Bihar the Mineral Rights were held by the landlords. These areas contain the major portions of coal bearing lands in these States. There was no regulation or restriction by the State in regard to the grant of mining leases. The landlords gave away mining rights on lease in several cases on permanent basis and in many cases on 999 years lease. In a few cases the leases were for short periods. The lessees had the right to sub-lease and the system of salami encouraged the grant of sub-leases. As a result there came into existence a series of sub-lessees, under-lessees etc. interposed between the landlords and the actual mine operator. In addition, owing to partition of the rights of the intermediaries and other causes, a single colliery owner has to pay shares of royalty on the coal to not one but to several parties as (a) the area of a colliery comprising several mouzas belonged to several intermediaries and (b) the rights of intermediaries are also split up into different shares. Because of various facts, there is also no uniformity in the rates of royalty. They vary from 1 anna per ton to 12 annas per ton of coal raised. In some cases due to the high rate of salami paid there is no royalty on raisings.

The recommendations of the Indian Coalfields Committee

2. The Indian Coalfields Committee examined the question of mineral rights in some detail. They pointed out that salami should be abolished and royalty rates made uniform. They recommended the State Acquisition of Zamindari rights, and also suggested that the two State Governments should delegate their powers to a National Coal Commission.

सत्यमेव जयते

3. The amalgamation of collieries will involve a combination of properties in which several intermediaries have an interest, who perhaps receive different rates of royalty. The adjustment of boundaries will affect the royalty rights of several intermediaries and may create some complications. Amalgamation cannot, therefore, be effected smoothly unless the royalty owners agree. Even here it will be difficult to determine the share of royalty which each of them will get. There will be obvious advantages if there is only one royalty receiver and one rate of royalty.

The Bengal & Bihar Acts

4. The Bihar Abolition of Zamindaries Act 1948, replaced in 1950 by the Bihar Land Reforms Act, 1950, and the West Bengal Estates Acquisition Act, 1953, were intended to acquire Zamindari rights and also the intermediary rights of lessees or sublessees not actually operating the mines in the States. We have referred to the salient provisions and underlying aims of these acts in a previous

chapter. Under the provisions of the aforesaid Acts, the proprietary interests of the landlords and tenure holders in the minerals have been taken over and vested in the State. However, in regard to the right of the lessees and sub-lessees who were not operating the mines, but had let out the same to others, the position did not seem clear. We were informed that the rights of intermediaries in regard to minerals had not been acquired and that there are certain lacunae in the Acts. We understand that steps are being taken by the State Governments to study the position. Their intention is to acquire all intermediary interests.

Royalties & Intermediaries

5. In regard to royalties, while the fixation of uniform rates of royalties will be desirable, we are also told that in large collieries different rates are being paid in respect of different areas now. The quantities of coal extracted are determined by measurement and royalties paid on that basis. However, we understand that the question of fixation of uniform rates of royalties is separately under consideration.

We are only concerned with the fact that the existence of several intermediaries, different rates of royalties and different lease terms should not be impediments to the amalgamation of collieries or the adjustment of boundaries and we would suggest that the Central Government should request the State Governments to take such action as may be necessary to remove the difficulties on this account. We also suggest that the Commission may, before finally approving or sanctioning schemes of amalgamation ascertain and take into consideration the views of the State Governments concerned.

6. Amalgamation necessitates transfer of the ownership of collieries with all their assets. It will also involve the extinguishment or acquisition of the rights in mines and minerals of the amalgamated units. It will involve adjustment of boundaries between collieries even when some colliery is not affected by amalgamation. It will also involve handing over to the unit formed by amalgamation of small pockets of virgin lands which are lying unworked and which cannot be worked separately. For all these purposes legislation will be necessary. Legislation will also be necessary to set up a machinery for amalgamation, its composition and procedure etc., for determining the shares of the owners of existing collieries with the amalgamated unit and of the compensation to collieries which opt out. The question has to be examined whether under any of the existing enactments these can be achieved.

Mines and Minerals (Development and Regulation) Act

7. Of the various Central Acts now in force the Mines and Minerals (Development and Regulation) Act No. 53 of 1948 is the one which contains provisions for granting new mining leases and also modifying or altering the terms and conditions of the mining leases granted prior to the commencement of that Act. This Act is referred to in Chapter V. The Mineral Concession Rules framed by the Central Government do not contain any rules for amalgamation of leases or for the purpose of modifying or altering the terms and

conditions of any lease existing at the commencement of the Mines and Minerals Act 1948.

We are of the opinion that the existing provisions, *i.e.*, sections 5 and 7 of the Mines and Minerals Act, 1948 are not sufficient to enable the Government to frame rules for amalgamation of contiguous areas. The provisions of Section 7 enable the Central Government to frame rules for modifying and altering the terms and conditions of the existing leases. Therefore the Central Government can frame rules as regards, say, the area or the duration of mining lease which can apply to the existing lease. In our opinion, however, rules which might be framed under section 5 for amalgamation of leases in respect of contiguous areas, cannot be applied to the existing mining leases. Amalgamation will result in *the termination of the lease itself* and will not be a process of modifying or altering the terms and conditions thereof which alone seems to be permitted under section 7 of the Mines and Minerals Act. Further, the rule making power of the Central Government for amalgamation under Section 5(2) (c) is not wide enough to meet all the requirements of the schemes for amalgamation. For instance, whereas the sub-clause (c) contemplates amalgamation of the entire areas of two or more leases, the circumstances of any particular case may require only a portion of a mining area to be amalgamated in one group and the rest of the area to be joined with another group. Secondly, Sub-Clause (c) is confined to amalgamation of leases only and does not provide for adjustment of boundaries. Further, it seems Section 5(2) (c) is intended to apply to cases where there is a single lessee operating two or more parcels of mineral area under two different leases, presumably also from the same lessor.

8. In our opinion, therefore, the provisions of Section 5(2) (c) relating to amalgamation will have to be enlarged to the following effect:

> "The Central Government may with a view to develop mining areas in an economic and scientific manner, make rules for amalgamating contiguous mining areas or parts thereof and for adjustment of irregular boundaries thereof by extinguishing, acquisition or modification of the rights and interests of the lessees and other persons in such mining areas or leases thereof on such terms and conditions as may be specified therein."

It will have to be made clear that such rules will apply both to the leases existing at the commencement of the Mines & Minerals (Development & Regulation) Act as well as those granted after the commencement of that Act. It will also have to be examined whether the Act as it is confers sufficient powers for rule-making in all the contingencies envisaged, or if it has to be amended so as to empower Government to make and amend rules.

After the extinguishment of the existing leases in favour of the individual units, which are being amalgamated into one, the State concerned, as the owner of the mineral rights should be required under such rules to grant a new lease in favour of the amalgamated unit in respect of the entire area comprised in the amalgamated unit on the terms and conditions which govern the grant of new leases by the States. In view of this, the existing Mineral Concession Rules which govern the grant of new leases by the State will have to be revised so as to be applicable in the conditions as they would emerge from the amalgamation scheme.

It may be mentioned that under Article 31A as amended by the 4th Constitution Amendment Act passed in 1955, no law providing for the extinguishment or modification of mining lease or licence shall be deemed to be void on the ground, *inter alia* that it is inconsistent or has taken away any of the rights conferred by Article 31 which requires payment of compensation, though it may be inadequate. We have in Chapter XIV dealt with the question of Valuation and compensation to be paid for the assets including the mining leasehold interest, of the constituent mine to be amalgamated.

Other Central Acts.

9. We have examined whether any amendments will be required in other Acts or orders like the Colliery Control Order, the Mines Act and the Coal Mines (Conservation & Safety) Act. Under the Colliery Control Order wagons are allotted to collieries for despatch of coal. There is nothing in this order to prevent the amalgamation of collieries. We do not see any need for amendment of the Mines Act.

So far as the Coal Mines (Conservation & Safety) Act 1952 is concerned, a suggestion was made that amalgamation can be achieved by empowering the Coal Board under Section 17 of the Coal Mines (Conservation & Safety) Act 1952 to take suitable action. We feel that the Act does not enable the Central Government to make such rules empowering the Board to bring about amalgamation.

Legislation required

10. The Rules to be framed under the amendments suggested in the Mines & Minerals (Development & Regulations) Act can provide only for the amalgamation of leases. Other assets like machinery, plant etc. will also have to be transferred to the amalgamated unit. Further, such amalgamation and adjustment of boundaries is peculiar to coal mines and may not concern other minerals. We, therefore, suggest that a separate piece of comprehensive legislation should be undertaken to deal with all aspects of amalgamation of collieries and adjustment of boundaries. The Central Government is competent to enact, on this behalf, necessary legislation under entries No. 52 & 54 in List No. I, Seventh Schedule of the Constitution of India.

The proposed legislation should *inter alia* contain the following main provisions:—

(1) A statutory body to be called "The Coal Mines Amalgamation Commission" shall be set up by the Central Government.

(2) The Commission shall consist of not more than three members nominated by the Central Government in consultation with the Governments of West Bengal and Bihar. The Chairman shall be a person of the rank of a High Court Judge. There shall be an experienced mining Engineer and experienced Accounts Expert as members.

(3) The Central Government may if it thinks necessary appoint more than one such Amalgamation Commission and may also decide that one Chairman shall preside over them.

(4) Where it is considered expedient by the Commission for the economical and scientific working, treatment or disposing of coal that the amalgamation of two or more collieries or part or parts thereof is desirable and necessary they shall call upon the owners of such collieries to draw up a scheme of amalgamation and submit it to them for approval within a specified time.

(5) Where such a scheme is received the Commission shall consider it, hear objections, if any, to the said scheme and after holding such enquiry as it considers necessary may modify and or confirm it.

(6) In default of compliance by the constituent unit or colliery owner to submit the amalgamation scheme as aforesaid the Commission shall prepare an amalgamation scheme framed in accordance with the principles laid down in Chapter X.

(7) Before finally approving or framing an amalgamation scheme the Commission shall call for and consider the views, if any, of the Government of the State in which the collieries are situated.

(8) An amalgamation scheme shall contain such provisions as may be necessary or expedient for giving effect to the objects of the scheme and in particular but without prejudice to the generality of the foregoing provisions:

(a) shall provide either for the constitution or for the incorporation of a new Company or firm to whom the undertaking of the constituent units or part or parts thereof may be transferred.

(b) shall provide for vesting in the new firm or company any or all the property right, powers, duties etc. of the constituent unit.

(c) shall provide generally as to the terms and conditions of amalgamation.

(d) shall value the shares of the participating constituent units in the amalgamated unit (The said valuation shall be made according to the principles laid down in Chapter XIV).

(9) If any constituent unit is not willing to join the amalgamated unit the same shall be absorbed in the amalgamated unit and the constituent unit shall be paid compensation equal to the value of the colliery determined as above. Such compensation shall be payable in five equal annual instalments and shall not bear interest.

(10) If in an amalgamated group a number of owners of collieries included in the scheme are not willing to join and their absorption in the amalgamated unit presents practical difficulties due to the inability of the remaining owners or any one of them in taking over the shares and managing the Company, the Commission may decide that any suitable third parties may join the unit and purchase the share of the non-participating units. If no purchasers are available, Government shall acquire all the properties and run it as a Government concern.

(11) A scheme when approved or made by the Commission shall be binding on all persons and the constituent units and the Memorandum and Articles of any Company and any other instrument regulating the constitution of the constituent units shall, in so far as they may be affected by the scheme have effect subject thereto.

(12) Where the assets of the constituent units are subject to any encumbrance or charge or security and are comprised in the amalgamated unit the same shall vest in the amalgamated unit free from such encumbrance charge or security and in place of such assets the encumbrance charge or security shall attach to the share or compensation which the constituent unit will get from the amalgamated unit or other person.

(13) The owner of the constituent unit shall hand over possession to the Amalgamated unit of the land and machinery within thirty days of the receipt by it of an order made by the Commission to that effect. In default of its doing so, the Commission may take possession of the said land, plant and machinery and deliver it to the amalgamated unit. Whoever wilfully obstructs the Commission or any person authorised so to do by the Commission, or wilfully damages or displaces or removes any coal shall, on conviction be liable to imprisonment or fine.

(14) If the Commission or the officer so authorised by it is opposed or impeded in taking possession of any land, plant, machinery etc. the Commission shall enforce the surrender of the land etc. to itself (or shall apply to a Magistrate, and the Magistrate shall enforce the surrender of the land to the Commission).

(15) After the coming into force of the Act, no person having a right to any colliery property shall have power without the sanction of the Commission to transfer or otherwise deal with any portion of his mining area, machinery, plant etc. (save and except the working of it in the course of his ordinary business) so as to affect the rights of any person having a right to occupy the said area and to get the said machinery etc. under any scheme of amalgamation which includes such area etc.

(16) No mining area in any amalgamated unit shall be transferred or partitioned so as to create a fragment *i.e.* a plot or parcel of land of less area or providing less coal than stated in Chapter X. Any transfer or partition of any land contrary to this provision shall be void.

(17) No stamp duty shall be payable in respect of any amalgamation or absorption scheme or on any conveyance assignment or transfer or any of the property of any Constituent or absorbed unit made in pursuance of any such scheme as aforesaid.

(18) Notwithstanding anything contained in the Income Tax Act, the Commission shall have the power to call for the records of any assessment of the owners of the Constituent units amalgamated or absorbed.

(19) The making or implementation of the amalgamation scheme to be within the time limit specified by the Commission.

(20) The Commission shall have the power to regulate their own procedure.

(21) Immunity to the Commission in respect of Acts done or purported to be done by them under the provisions of the proposed legislation.

Summary

We have taken note of the fact that suitable steps will be taken by the Governments of West Bengal and Bihar to take over the rights of all intermediaries and hope that by this step the difficulties in the way of amalgamation and adjustment of boundaries on this account will be removed.

We are informed that there is a proposal to make royalty rates uniform and that necessary steps are being taken.

Recommendation

Powers of amalgamation of mining leases will have to be taken by an amendment of Sections 5 and 7 of the Mines & Minerals (Development & Regulation) Act and the Mineral Concession Rules will also require amendment. Composite legislation is required to effect amalgamation of collieries and adjustment of boundaries and for the appointment of a Collieries Amalgamation Commission.

CHAPTER XIV

VALUATION OF COLLIERIES, FINANCE AND THE ORGANISATION TO RUN THE AMALGAMATED UNITS

We have in Chapter XIII recommended that the Commission should have powers to determine the valuation of collieries. Amalgamation involves the financial merger of the separate undertakings and some provision is necessary to determine the share in the amalgamated concern. In legislation in the U.K. relating to amalgamation of collieries we have seen that there were provisions that the value of an undertaking should be based on the value as between a willing buyer and a willing seller if there had been no legislation for amalgamation. But there was little or no amalgamation under these legislative measures; we are doubtful whether a general formula of this nature would be sufficient for our purposes. We have, therefore, gone into this matter in some detail.

Experience in U.K. and France

2. The valuation of a colliery is not an easy task. No uniform method has been devised so far any where. Even in the U.K., when the Coal Industry was nationalised no attempt was made initially to value the individual mines. A tribunal was appointed to fix a value for the assets of all coal mines taken together if they were sold in the open market as assets of a going concern from a willing seller to a willing buyer (a) on the basis of the net income which the assets may be able to earn and (b) the number of years' purchase to apply thereto. The Tribunal fixed a global sum of £164,660,000 for all the undertaknigs. This was apportioned district-wise by a Central Valuation Board and colliery-wise by District and Local Boards. In France, when coal was nationalised, the compensation was paid on the basis of Stock Exchange quotations or where the shares were not quoted in the Exchange on the liquidation value of the undertakings as determined by a Special Committee. It will be realised from this that the valuation of collieries on a uniform basis is a difficult problem and that there can be no ready formula for such valuation.

Methods of valuatoin

3. The valuation of any industrial undertaking may be done according to the following methods and principles:—

(a) On the basis of the net maintainable revenue.

(b) Stock Exchange quotations.

(c) Securities (shares) to be valued by a Tribunal.

(d) Valuation of the assets.

In India the Collieries are managed by various types of organisations like the family concern, the single proprietor, partnerships, Private Ltd. Companies and some Public Ltd. Companies. The number of Public Ltd. Companies is not large. Even in the case of these Companies the shares of only a few are quoted on the Stock Exchange. In the case of the comparatively small collieries this number will be very small. Hence, the valuation of colliery undertakings on the basis of stock exchange quotations is not possible. Nor is the method of valuation of shares by a Tribunal applicable here. The two alternatives left are the assessment of the present value of the net maintainable revenue or the valuation of the assets. Any system of valuation of the collieries should be on a national basis as the problem will apply to a large number of collieries which may be affected by amalgamation.

Suggestions regarding valuation

4. In the replies received to the questionnaire of the Committee and in the oral evidence the following methods were suggested for valuation of collieries:—

(i) After assessing the recoverable assets and assessing the profit per ton the value should be assessed as follows:—

(a) Estimate of output in 20 years or less if lease is shorter.
(b) Average rate of profit per ton.
(c) Present value of plant, machinery etc.
(d) Liabilities.

Value = (a x b) + c—d.

salami.

(ii) (a) Reserves of virgin coal to be valued on the basis of
(b) After calculating reserves in working seams, life is estimated and the expected annual profit is capitalised.
(c) Present value of machinery etc. is added. If capital expenditure is immediately necessary it is deducted.

(iii) (a) Value of existing machinery, buildings, shafts, inclines etc.
(b) Value of recoverable coal at Rs. 1-2-0 per ton.

(iv) (a) Book value of plant, equipment and assets.
(b) Profitability on the basis of I.T. return.

(v) Prevailing market rate per bigha of coal land or capitalising profit plus value of surplus stores etc.

(vi) (a) *For collieries opened before* 1935.—According to grade 2 to 4 annas per ton of coal on last 40 years' raising for deep mine according to grade and for quarries and inclines an additional rate of 3 to 6 pies. In addition value of machinery etc.
(b) *For collieries opened after* 1935.—Valuation on basis of actual raising plus 50 per cent extra.

(vii) (a) Value of a working asset in the light of calculated profit plus.

(b) Value of fixed assets and moveable assets.

(viii) A. *New Colliery which has not earned profit.*

(a) Salami paid.

(b) Cost of acquisition of surface rights.

(c) Cost of prospecting.

(d) Cost of development.

(e) Plant and machinery.

B. *Colliery earning profits*

Profit per ton in last 10 years multiplied by reserves or total outlay plus 10 per cent.

(ix) Add to the value of machinery the estimated annual profit for 10 years.

5. We have examined the sugestions contained in paragraph 4 above and find ourselves unable to accept them for the following reasons:—

In regard to the first suggestion, we are of opinion that the addition of the average profit for the next 20 years to the present value of plant and machinery will give the property an unreasonably high value for the purpose of amalgamation.

In suggestion (ii), the valuation of virgin coal is suggested. While we agree that Salami, if actually paid by the owner should be admitted at its depreciated value, we do not agree that any consideration should be given to virgin undeveloped coal. The coal does not belong to the lessee. He enjoys only the right to extract and sell the coal. The system of Salami is not in vogue and the Mineral Concession Rules prohibit the demand and payment of Salami. If a virgin coal property were to be sold, it cannot have a value as such, except in regard to any prospecting and development expenses incurred by the owner. On the question of deduction of the value of new capital required, we feel that this would be unfair to the seller. The capital required may be estimated by different persons at different levels according to the degree of mechanisation etc. that may be planned. We have to bear in mind that we are valuing the collieries as they are and not determining their potentialities. We, therefore, feel that the suggestion regarding deduction of new capital cannot be very relevant for this limited purpose.

In suggestion (iii) a value has been given at Rs. 1-2-0 per ton of recoverable coal. We have already stated that we cannot agree to give a price for coal underground. This method is very rough and ready and cannot be called scientific or rational.

Suggestion (iv) contains a very fair assessment in that it allows for assets and profitability. But it does not suggest a period for which this profit should be allowed.

Suggestion (v) proposes payment of prevailing market rate for coal land or capitalising profit and adding value of stores.

In the first place, as already stated, we are not in favour of paying anything for coal land as such. Secondly, while the system of capitalising the profit may be a very sound system we feel that as an alternative to the method of assessing the existing value of the collieries, the method of determining the value of the maintainable net profits will present practical difficulties. Mining is hazardous and the mine is a wasting asset. In the calculation, estimates have to be made on the 'life' of the mine as also on the average profit per ton. Either of these calculations is speculative and may be inaccurate in individual mine valuation.

Suggestion (vi) suggesting a value of coal and the valuation on the basis of actual raising in the past may not, in our opinion be a fair method of valuation.

Suggestion (vii) is similar to suggestion (i).

In suggestion (viii) methods of valuing a virgin mine and a working mine have been given. We have discussed the question of valuation of virgin properties and are of the opinion that this is not within our scope; however, we feel that in the case of virgin areas nothing more than the actual capital expenditure incurred in purchase and prospecting if any should be allowed. Particularly as we believe the natural resources belong to the State. The suggestion in regard to working collieries assumes that profit will be earned at the same rate in future as in the past. We do not agree with this proposal.

Suggestion No. (ix) is, we feel a fair method, excepting that we do not agree to the estimated profits for the period of 10 years.

General practice in India

6. In India there has been no definite procedure for the valuation of colliery properties which may be applied to all collieries. The method adopted varies from person to person and according to the buyer and the seller. Generally, we are told, the nature of the property, its position the quality of coal, reserves, working conditions etc. are studied to determine what would be the net profit of a colliery and for what period such a profit may be available without additional capital expenditure. Ordinarily, the annual estimated profit may be multiplied by a number of years which may be fixed by the seller or the buyer in terms of the expected life of the mine and other factors. In addition the plant, machinery, stocks, stores, etc. are valued and the total liabilities are deducted. If new capital is required to be invested immediately to earn the estimated profits that amount is also deducted. Then the value of the property will be the value of assets plus a sum equivalent to the profit which will be earned in future years minus liabilities, and minus new capital required to be invested. But such a system of valuation may not always be adopted in practice.

The standard procedure suggested above appears to be a generally acceptable basis. We are trying to value the colliery as a partner in an amalgamated unit or as an undertaking which may not join the unit and may have to be acquired. We should, therefore, value the assets of the colliery and deduct the liabilities. We do not agree that the value of new capital required should be deducted. We suggest that the colliery should be valued on the basis of the assets minus liability plus four times the annual net profit (according to income tax returns). In regard to losses, we do not think that any deduction need be made.

It is necessary to clarify what we mean by 'liabilities'. We consider that for our purpose 'liabilities' would mean loans, mortgages, debentures and other charges of a capital nature on the assets of the undertaking.

Details of assets

7. Having come to the broad basis in which valuation should be made, the actual method of valuing the assets and determining the liabilities has to be stated.

In the assets of colliery companies 'Mining rights' 'Shafts and inclines' are listed as assets. The mining right is listed as an asset, because in the past a salami had to be paid in lump sum of obtaining a mining lease. This system is no longer in vogue. We have dealt with suggestions that for the estimated reserves of coal a value should be allowed at a rate per ton. There can be two opposite views in regard to this. One is that the coal underground does not belong to the lessee or the owner of the colliery. He has only the right to produce the coal and sell it. His assets do not include the coal underground. His assets are the machinery and plant etc. with which the coal is produced and his expectation is the profit he can make with that capital and equipment. If there are large reserves in the mine they cannot be exploited without additional capital expenditure. The virgin coal property cannot be leased out on a salami and therefore no price for a coal land as such. The other view is that the right to work the coal is something real and tangible that it has some value in terms of money and therefore there should be a compensation if the right is acquired. Taking into consideration all facts, we feel that it may be fair to admit in the assets the amount of salami actually paid for the mining rights depreciated at a suitable rate.

Inclines and shafts and initial development (capital charge) being in the nature of capital expenditure will be admissible in the valuation of a colliery provided the amount spent is properly depreciated in the proportion which the coal recovered from year to year bears to the reserves in the seam or seams or parts of the seam or seams in question.

The question will arise how machinery should be valued. Whether the value in the balance sheets should be accepted or whether the original value should be depreciated at approved rates or whether they should be valued at replacement cost less depreciation. The value in the balance sheet may not be the real value or the comparable value of the assets as between three or four coal companies for the methods of depreciation etc. adopted by different collieries will vary. The replacement value less depreciation may be a rather liberal method of assessment and leaves out the obsolescence factor. A fair and equitable basis would be the assessment of the value on the basis of the original prices less depreciation at rates adopted for I. T. purposes. Where these data are not available the machinery, plant and buildings should be assessed on an *ad hoc* basis considering their age, condition and economic efficiency in working.

Procedure for valuation

8. We, therefore, suggest that the value of a colliery should be assessed in terms of the present value of the assets including:—

(a) Mining rights or salami.
(b) Shafts and inclines.
(c) Machinery and plant and sidings.
(d) Buildings.
(e) Stores
(f) Stocks of coal.

From the value so assessed should be deducted the liabilities of the colliery. A surcharge equivalent to 4 times the average annual profit of 10 years taken from 1945 according to I. T. returns should be added.

The valuation should be done by a statutory body to be appointed to implement amalgamation.

The valuation of reserves

9. The point was raised in our discussions whether the area of a colliery should not be taken into account. In that case it is not only the area but also the thickness of the seams and therefore the reserves of coal which may have to be valued. We have already expressed the view that valuation according to the quantity of coal in the mine may not be proper valuation. The valuation should, if at all, be according to the production capacity of the mine. An index of the capacity is provided by the value of the assets as proposed by us and we therefore do not agree that the area etc. should be taken into account.

It has been pointed out in our discussions that the reserves of a coal mine should be valued. In an extreme case when a mine is about to be exhausted, it has been suggested that the value of the assets plus a surcharge of four years profits would not represent its comparable value with a mine which had large reserves but the same amount of capital assets. It has been argued on the other hand that in the case of a mine about to be exhausted, no purpose will be served by its amalgamation and it might be very well left alone. Further, the valuation of assets like, salami, shafts and inclines and machinery would be on a depreciated basis and would therefore take into account the extent of exhaustion of the working seams. The development of virgin seams would require new capital. However, in view of the opinion held by some of us that the reserves should also be given a value, we suggest that in addition to the items suggested above, the Commission may, if they are convinced, take into account the addition of a surcharge for the value of the reserves of workable coal in existing working seams.

As already stated, the method we suggest is only intended to fix the shares of the collieries in the amalgamated units and of the compensation to be paid to the owner who does not wish to participate. The method of valuation proposed being for a limited purpose, we wish to point out that this should not be a procedure for the valuation of collieries for nay other purpose.

When the collieries amalgamate voluntarily they may fix a system of assessing the share of each participating unit by mutual agreement. Such mutual agreement may be possible in the case of compulsory schemes of amalgamation also. Hence the method of valuation proposed by us will be adopted only in cases where the parties are unable to come to an agreement regarding the share of each constituent unit in the amalgamated unit.

Exceptional cases

10. In this connection, we may point out that there may be exceptional cases where the liabilities of the collieries may exceed the assets. In that case the amalgamated unit cannot take any responsibility for a colliery's liabilities which are in excess of its assets, for the value of a colliery may turn out to be a minus value. In such a case the following solution may be possible.

(a) The owner of the colliery gets a share in the amalgamated unit according to the value of his assets before deduction of liabilities. He may then hypothecate his shares to the creditors.

(b) The property is deemed to be transferred to the creditors to the extent of its assessed value and the creditor is given a share in the amalgamated unit.

(c) If the creditor does not wish to join the unit or to accept a mortgage of the shares, the property is taken over by the amalgamated unit and the creditor paid the assessed value as if it were non-participating colliery.

Compensation to the participating owners

11. In regard to the compensation to collieries who are not willing to join in a group formed for amalgamation, the views expressed to the Committee are varied. Some are of the opinion that the compensation should be to the extent of the full value of assets. Others feel that such an owner by his non-co-operative attitude is placing impediments on progress and that if every one is to be compensated to the full extent, it will only encourage such an attitude among the owners of small collieries. Hence, the opinion has been expressed that such owners should either be allowed no compensation or that the compensation should be only to the extent of part of the value of the property. Suggestions have also been made that such properties should be acquired by Government who should participate in the amalgamated unit. After considering all the views, we feel that the compensation payable should be equivalent to the value of the colliery, worked out on the basis of the formula mentioned above, but that the amount should be paid in equal annual instalments by the amalgamated unit within a period of five years. We are of the opinion that if a property is to be acquired by the amalgamated unit, the compensation should not be less than the value of the colliery

as assessed according to the procedure suggested by us. It is also possible that in a few cases, the majority of the owners of a group may not be willing to join the amalgamated unit. Possibly even with the financial assistance which we propose in later paragraphs, the remaining owners may not be able to take over the properties. The question will also arise whether they will be able to run the colliery. In such an event, the non-participating units should be handed over to third parties who are willing to purchase the amalgamated unit and provided they are considered competent to run them. The value should be paid by these third parties who will get shares in the amalgamated unit according to the values of the individual collieries taken over by them. If this course is also not possible Government should step in and take over the unit as a Government concern on the same basis as the third party would have done.

Finance for the amalgamated units

12. When several small collieries are amalgamated into a single large unit, the question of finance for the amalgamated units will necessarily arise. The small collieries are run with small capital. On amalgamation, the unit will have to purchase shares of the non-participating collieries, provide itself with a working capital and to run the amalgamated undertaking. Some new capital expenditure may also have to be incurred. We doubt whether these collieries will be able to find capital from their own resources or to raise it from the market. We understand that the Industrial Banks and private Banks hesitate to give loans to collieries against their fixed assets. Therefore, the amalgamated units will have to be assisted from some Government sponsored institution.

There are three such Government sponsored institutions which advance funds for industrial undertakings. These are the Industrial Finance Corporation, the Industrial Credit & Investment Corporation and the National Industrial Development Corporation. In regard to the National Industrial Development Corporation it appears that a good part of the funds would be utilised for assisting the modernisation of jute and cotton industries and the rest of the funds will be available for new basic and heavy industries. Coal Mining does not appear to be included in this. The Industrial Credit & Investment Corporation may give loans and also provide the technical know-how mainly for new undertakings etc. and it seems that the grant of financial assistance to colliery undertakings is not envisaged by them also. Any organisation of the Coal Industry will require finance. Coal is the basic raw material for industrial purposes and the amalgamation and re-organisation of collieries is in our opinion one of the essential steps in any programme of large scale industrial expansion. We, therefore, consider that steps should be taken by Government to include colliery undertakings within the scope of these Corporations or start a new Corporation to assist such undertakings. If necessary, this Corporation may be financed by a cess on despatches of coal. Such a cess at eight annas per ton of coal may yield an annual revenue of Rs. 1·5 crores and in five years a sum of Rs. 7·5 crores may be available. In the initial stages this amount will go a long way to provide the finance required for amalgamated collieries.

13. There will be the second stage of amalgamation when further capital will be required for modernisation of the collieries by large scale mechanisation, etc. The Committee tried to obtain from collieries information regarding capital invested. This information has not, however, been forthcoming in a large majority of cases and it is not possible to draw any general conclusions. Even in the better equipped collieries in India the capital invested is on an average only of the order of Rs. 11 per ton of annual production. In the smaller collieries this figure must necessarily be very low. For a new and well equipped mine the capital required is estimated by experts to be of the order of Rs. 30 to Rs. 40 per ton of annual output. It may be more in very deep mines where sinking of deep shafts will be very costly; as these mines will be economical only with the large outputs, a high degree of mechanisation may also be necessary. The smaller mines are generally now working at shallow depths. They may have to work the deeper seams and amalgamation will only yield full benefits when the deeper virgin seams are exploited. If the units cannot find the capital, the process of modernisation will be delayed; steps are therefore necessary to provide capital by way of loans at this stage also, which may coincide with the periods of the third and fourth five year plans when the demand for coal may have increased at a rapid pace.

The organisation to run the Amalgamated Units

14. In the replies received to the questionnaire the organisation most favoured for the amalgamated groups of collieries is the Public Limited Company. Suggestions have also been made that Private Limited Companies may also serve the purpose. The Indian Colliery Owners Association is of the view that there might be constant frictions amongst the partners and directors if amalgamated collieries be organised into limited companies (Public or Private) and that the best possible way to amalgamate would be through co-operative organisations. The Indian Mining Association and Indian Mining Federation have stated that unless the parties concerned can voluntarily agree on some other form of organisation, the formation of a limited company, private or public, with the participating collieries as shareholders in proportion to the value of their respective shares in such collieries should be the organisation for amalgamated units. The Indian National Mine Workers' Federation have suggested a co-operative organisation with State and Labour adequately represented. The view that the form of organisation should be left to the colliery owners themselves has also been expressed.

15. On the balance of various considerations we find that the best form for a commercial organisation from the national point of view would be a Public Limited Co. There are definite advantages in having a Public Limited Co. The Indian Companies Act which affects commercial undertakings has several provisions to safeguard the interest of the shareholders and to ensure that the organisation is run properly. One of the fears expressed by the smaller units in amalgamating with comparatively larger units was that their rights of management would be impeded and that they would have no voice in administering the affairs of the new Company. The Indian Companies Act provides that provision could be made in the Articles of Association that the legitimate rights of minority interests should

be safeguarded. Hence it would be possible to provide that the interests of shareholders or partners of all the participating undertakings should be safeguarded. Finance Corporations advance loans easily to Public Limited Companies. Where the owners cannot come to an agreement regarding the organisation, we would suggest that the amalgamated units should be registered as Public Limited Companies, but this may be left to the Commission to decide in each case.

In the Public Limited Companies so formed, each colliery undertaking will have a share according to the value of its colliery. The value of the shares of the shareholders partners, etc. of the participating collieries will then be determined according to their proportionate shares in the participating collieries. The Companies so formed will function as the owner of the collieries with the main function of producing coal and processing and marketing it and with the powers required to carry out these functions and other ancillary functions.

16. As the question of participation of labour is a larger issue of industrial policy, which is being examined at a high level, we do not wish to express any views on the subject except to say that we assume that when Government policy is decided and implemented it will apply to the Coal Industry along with other industries. If any of the colliery owners could combine and work the amalgamated unit as a Co-operative organisation, it may be an experiment worth study.

Recommendations

(1) When one or more collieries are amalgamated the share of each colliery in the amalgamated unit may be decided

(a) by mutual agreement between the parties.

(b) According to the value of each colliery determined by the Commission on the following basis:—

(i) Assets of the colliery consisting of mining rights, initial capital expenditure, shafts and inclines, machinery plants and buildings, stores and stocks of coal.

(ii) Liabilities consisting of loans or encumbrances charged on the property should be deducted.

(iii) A surcharge equal to 4 times the net annual average profit, according to the Income Tax returns over a period of ten years from 1945 should be added.

The Commission may also consider whether in addition to these any surcharge should be added in respect of coal resources in working seams.

(2) In case a colliery owner is not willing to join the amalgamated group, the colliery will be absorbed in the group and the owner will be paid by the amalgamated concern a compensation to be determined in the manner mentioned above. The compensation shall be payable in five equal annual instalments.

(3) In order that the amalgamated units may function efficiently, financial assistance may be required and this will have to be done through the three Government sponsored organisations which advance funds for industrial undertakings. If this is not found possible a new Corporation should be started. This may be financed by a cess on despatches of coal.

(4) The form of organisation to run the amalgamated units may be decided by the parties concerned but when they fail to agree, the Commission may decide the form of organisation. In our opinion public limited companies would be the best.

सत्यमेव जयते

CHAPTER XV

EFFECT ON EMPLOYMENT OF LABOUR

Views regarding possible retrenchment of Labour

1. Though it was generally accepted that the larger collieries provided better working and living conditions to their employees, it was suggested that amalgamation will adversely affect the employment position and lead to retrenchment. The Indian Mining Association and the Indian Mining Federation in their written reply to the questionnaire stated that amalgamation was "likely to lead to labour and technical staff becoming surplus." The Indian Colliery Owners' Association emphasized the fact that there was "every possibility of some reduction in the strength of labour and clerical and other staff as a result of amalgamation of collieries and accelerated mechanisation of these units," though they were not able to "assess the extent of reduction;" they also expressed the fear that "in the context of the existing acute position of unemployment in this country, the problem of employing such labour and staff may be found to be a difficult one." A similar opinion was also expressed by the Indian Collieries Union.

2. On behalf of the workers, the Indian National Mine Workers Federation in their written reply expressed the view that there will not be "any appreciable reduction in the labour strength by amalgamation." It was on the other hand of opinion that "new avenues of employment will be created by the introduction of stowing, washing etc." and this would "absorb the labour if at all rendered surplus by amalgamation more so in view of the target set up for the production of coal in the Second Five-Year Plan." The Indian Mine Workers' Federation also expressed the same view that no "reduction in the labour force will be necessary." In a written note the Koyala Mazdoor Panchayat has suggested that though amalgamation may not lead to retrenchment, "it is bound to create a certain degree of dislocation which will call for adjustment."

3. A number of prominent mining engineers who were examined expressed the view that there was no reason to worry about any retrenchment of labour due to amalgamation. They were of opinion that amalgamation will lead to a larger output under better working conditions. They did however, stress the fact that certain readjustment among certain categories of workers may become necessary after amalgamation. But if the situation is properly handled there was no likelihood of any adverse effect on employment. As to the scope and extent of adjustment it was stated that it will depend upon the manner in which the amalgamated unit would be worked.

4. The consensus of opinion was that amalgamation of collieries would not have any adverse effect on an appreciable scale on the

employment of labour and it was urged by most of the individuals and organisations who tendered evidence before the Committee that in view of the targets of the Second Five Year Plan there need be no fear of retrenchment due to amalgamation. The owners of the smaller collieries, however, held a different view and a memorandum was submitted to the Committee by a group of 11 colliery owners in a particular area in which an alarming picture was given about the adverse effects of amalgamation on the employment of staff stating *inter alia* that 64 per cent. of staff and 42 per cent. of labour would be rendered surplus if those eleven collieries were to be amalgamated into one unit.

Mechanisation after amalgamation

5. We have carefully examined the contents of this memorandum and we came to the conclusion that the question of amalgamation had been unnecessarily confused with the question of mechanisation. In our opinion, they had incorrectly presumed that amalgamation meant mechanisation and that too mechanisation of a type that was an exception rather than the rule in this country. The scope of mechanisation that is envisaged in that memorandum is, assuming it was desirable, neither practical nor possible. We have neither the resources nor the materials to mechanise our mines to that extent. Mechanisation is a very slow process in the mines and it will not be proper to imagine that amalgamation of collieries will change the method of mining overnight. Complete mechanisation of the type conceived in that memorandum will take years for its accomplishment in the amalgamated units.

6. The correct assumption would be that after the collieries are amalgamated they would for some time to come be working as individual units under one management and the process of rationalisation and mechanisation would have to be by its very nature gradual. This will, of course, require some amount of adjustment but we feel that it is possible to carry through this process of adjustment without any dislocation in work and displacement of or hardship to the workers. We understand that even to-day collieries have to resort to this sort of adjustment and those, who want to, do it without any disturbance or difficulty.

Our examination of the problem

7. Notwithstanding the above, we examined the figures submitted in that memorandum and compared their employment figures, taking those eleven collieries as specimen small collieries to be amalgamated into suitable units of various sizes with that in some of the existing units of corresponding sizes. A careful scrutiny of the pattern of employment in the various sizes of the amalgamated units formed out of these eleven collieries and in the existing collieries of corresponding sizes on the basis of output showed that generally speaking the scope of employment in bigger units was not *per se* significantly less than in smaller units.

8. We further studied this question on the basis of some tentative schemes of amalgamation. This also confirmed the conclusion that the overall employment figures in the larger units was not lower than the total number of persons employed in the individual small collieries likely to be amalgamated.

9. There was, however, one category of workmen, *i.e.*, the clerical staff etc. whose prospects of employment in the larger collieries according to the above studies were less than in the individual small collieries. Though the percentage of people employed in this category was small, it was likely that amalgamation might render some of these workers surplus. We feel that there might be some adverse effect on the employment of clerical and other staff and some steps might be necessary for their rehabilitation.

10. The above study of the problem in the collieries of particular areas was made on the basis of the figures submitted by the collieries in their return to the Chief Inspector of Mines for the year 1954. An attempt, was also made to obtain the latest figures from these collieries on the basis of a different split-up. We, however, found it difficult to draw any conclusions as their output figures for the previous year were neither available nor comparable. We also feel it our duty to mention that there are obvious limitations in this method of approach. The output employment rates in a mine depends on the geological conditions, stage of development, layout, method of mining and the extent of mechanisation and these vary considerably from colliery to colliery and area to area. In these circumstances, it was very difficult to compare an existing unit with the proposed amalgamated unit; more so because a complete and detailed picture of the amalgamated unit was not before us. It was, therefore possible for us only to draw general conclusions. Each case of amalgamation will be different from the other depending upon the conditions existing in the individual collieries to be amalgamated. In the circumstances, we were obliged to assess the problem in a broad way and arrive at general conclusions.

O.M.S. in production groups

11. We also examined this question from an overall point of view. Collieries in Jharia and Ranigunge Coalfields were divided in six categories according to output and figures for the output and the total employment in each group were worked out. The output per man-year in tons for each of the groups is shown in the table below:—

Output per man-year (tons)

Size Group (Monthly output in tons)	Overall
Above 20,000	115·3
10,001 to 20,000	106·2
5,001 to 10,000	111·5
2,501 to 5,000	105·7
601 to 2,500	108·0
Upto 600	79·0
For all collieries	108·0

The last group of collieries, namely those producing less than 600 tons per month has a very low output per man-year; this is probably due to the fact that all these collieries are usually either closed, or work irregularly during the rainy season and their methods of mining are primitive. The rest of the groups excepting the collieries producing more than 20,000 tons per month have nearly the same output per man-year as that for all collieries taken together. Even the group which has the largest sized collieries does not have a very different output per man-year. Thus generally speaking it can be safely presumed that in the existing conditions we require the same number of persons to produce a ton of coal irrespective of the size of the colliery. There are, of course, exceptions which only prove the rule.

12. The table below which gives the output per man-shift (O.M.S.) in tons for each of the above mentioned groups also confirm the above conclusions:—

Output per man-shift (tons)

Size Group (Monthly output in tons)	Miners and Loaders	All persons employed underground and in open workings	All persons employed above and underground
Above 20,000 . . .	1·24	0·61	0·37
10,001 to 20,000 . . .	1·05	0·58	0·35
5,001 to 10,000 . . .	1·02	0·61	0.36
2,501 to 5,000 . . .	0·87	0·56	0·36
601 to 2,500 . . .	0·98	0·62	0·37
Upto 600	0·92	0·51	0·31

N. B.—The above figures are based on sample tabulation covering 100 collieries in Jharia and Ranigunge.

13. Annexure A shows the split-up figures of employment of different categories of workers for collieries of various sizes and annexure B shows the percentage of different categories of workers to the total number of employees in collieries of various sizes. Here, also it will be seen that the smaller collieries show a larger percentage of clerical staff, etc. and for the rehabilitation of the employees in this category that may be rendered surplus, some provision may be necessary.

14. On the basis of these facts, we arrived at the conclusion that though amalgamation is not likely to have any adverse effect on the overall employment position, certain categories of working like the clerical staff may be rendered surplus. This is of course on the assumption that the output in the amalgamated units remains the same as the sum total of the output in the individual collieries. If the output is increased which is imperative in view of the targets of the Second Five-Year Plan, the scope of employment will improve and there need be no fear of any retrenchment. If stowing and washing are introduced additional avenues of employment will be

opened up and more workers will be absorbed in the amalgamated units. The chances of employment will also appreciate as the number of shifts are likely to increase after amalgamation. To-day, nearly 40 per cent. of collieries producing less than 2500 tons per month work only one shift and the rest two or more shifts; after amalgamation the operations may spread over three shifts with consequent appreciation in employment.

Adjustment required

15. The necessity of adjustment, however, as stated earlier, will be there. Amalgamation will lead to rational methods of work and this will necessitate certain amount of adjustment. The Committee considered this question in detail but found itself unable to express any definite opinion on the scope and extent of adjustment that may be necessary, as this will vary from group to group. In order to smoothen the process of amalgamation, we recommend that these adjustments should be made in consultation with the representatives of labour and they should in no case adversely affect the emoluments of the workers nor increase their workload.

16. The question of mechanisation likewise is also a complicated one. The Committee feels that the question of mechanisation should be treated separately and should not be mixed up with that of amalgamation. There is no doubt that there is much scope for mechanising the mines, even the large ones, in this country, but this question has to be decided after taking into consideration our material resources and the problem of unemployment. We, however, feel that amalgamation may lead to improved methods of working and reduce the drudgery of the workers and this is possible without adversely affecting the employment position.

Absorption of workers who may be rendered surplus

17. But all this means that some solution should be found for the absorption of workers who may be rendered surplus due to amalgamation and adjustment that may be required due to introduction of rationalised and mechanised methods of work. The Committee feels that this problem should be tackled on a different level. Coal mining is not like a factory. Coal is not produced; it is extracted and a time comes when the mine or a section of the mine gets exhausted. Mining, therefore is a continuous process involving simultaneous retrenchment and employment. As the workings in a particular section, pit, mine or colliery come to an end, the question of absorbing the people elsewhere is a constant problem. While in one place experienced hands are being retrenched as the workings have been exhausted, there is also likelihood of new people being absorbed for these very jobs in some other place. This will also be evident from the fact that though thousands of workers are retrenched every month the total number of persons employed in this industry has remained the same, if it has not gone up. The Committee feels that it is very urgently necessary that a pool for colliery workers should be set up at least for the Raniganj and Jharia Coalfields. We understand that the question of appointment of a pool is under consideration of the Labour Ministry in connection with the larger issue of the problem of Colliery labour. We would endorse the proposal and point out that such a pool can adequately deal with

the problems of retrenchment if any should arise in connection with the amalgamation of Collieries.

Conclusions & Recommendations

18. (i) There is no likelihood of any appreciable change in the overall employment of labour due to amalgamation.

(ii) Only in the category of clerical and some other staff, some workers may be rendered surplus.

(iii) Certain adjustments in the employment pattern will be necessary, we endorse the proposal which is separately under consideration for the creation of a pool for surplus colliery workers.

(iv) The process of rationlisation and mechanisation after amalgamation should be gradual and only after arrangements for the absorption of surplus hands are made.

(v) If the surplus hands are not absorbed, they should be maintained till natural elimination or absorption elsewhere takes place, such maintenance will be on such terms and conditions as are provided in the Industrial Disputes Act.

(vi) Adjustments should be made in consultation with representatives of labour and without adversely affecting the emoluments of the workers or increasing their workloads.

सत्यमेव जयते

ANNEXURE A

STATEMENT I

Size Group (Monthly output in tons)	Daily Average Number of Persons employed during the year, 1954 per mine																				Average annual output per mine (tons)
	MALES																FEMALES				
	Under Ground						Opon Working						Surface								
	Over-men and Sir-dars	Coal Cut-ters	Load-ers	Skil-led La-bour	Un-Skil-led La-bour	Total	Over men and Sir-dars	Coal Cut-ters	Load-ers	Skilled Labour	Un-skilled Labour	Total	Cle-rical etc.	Skil-led La-bour	Un-skilled labour	Total	Total Males	Open Work-ings	Sur-face	Total	Grand Total	
20,001 and above .	52·1	304·4	555·2	294·3	529·8	1735·8	0·4	4·6	.	..	5·4	10·4	75·6	191·4	527·3	794·3	2540·5	6·8	305·4	312·2	2852·7	328851
10,001 to 20,000 .	27·8	251·6	256·8	150·2	234·2	920·6	0·3	3·5	0·9	0·3	3·0	8·0	47·6	113·0	285·4	446·0	1374·6	4·3	186·3	190·6	1565·2	166220
5,001 to 10,000 .	10·7	123·8	135·6	59·0	104·4	433·5	0·1	0·2	0·3	0·3	1·0	1·9	27·6	51·3	122·3	201·2	636·6	..	96·8	96·8	733·4	81780
2,501 to 5,000 .	6·4	80·9	77·8	32·6	45·7	243·4	0·3	3·4	1·7	0·7	5·0	11·1	20·2	22·2	55·1	97·5	352·0	4·8	49·4	54·2	406·2	42932
601 to 2500 .	3·6	37·2	21·7	10·6	10·3	83·4	0·4	4·1	1·4	0·6	6·2	12·7	7·6	13·4	23·4	44·4	140·5	4·3	21·9	26·2	166·7	17999
Upto 600	0·7	4·0	3·2	0·9	1·9	10·7	0·5	4·8	3·0	0·6	2·4	11·3	2·6	1·6	5·9	10·1	32·1	5·0	5·6	10·6	42·7	3372

ANNEXURE B

Percentage of different categories of workers to the total number of employees in collieries of various sizes

Size Group (Monthly output in tons)	Miners and Loaders	Overmen and Sirdars	Clerical etc.	Skilled	Unskilled	Female	Total of 5, 6 and 7	Total of 2, 3, 4 5, 6 and 7
1	2	3	4	5	6	7	8	9
Gr. I 20,001 and above . .	30·3	1·84	2·65	17	37	10·9	64·9	99·69
Gr. II 10,001 to 20,000 . .	33·0	1·80	3·04	16·8	33·4	12·2	62·4	100·24
Gr. III 5,001 to 10,000 . .	35·5	1·47	3·76	15	31	13·2	59·2	99·93
Gr. IV 2,501 to 5,000 . .	40·4	1·65	4·97	13·5	26·	13·3	52·8	99·82
Gr. V 601 to 2500 . . .	38·0	2·41	4·55	14·7	24	15·7	54·4	99·36
Gr. VI upto 600 . . .	35·0	2·80	6·09	7·3	23·9	24·8	55·0	99·89

सत्यमेव जयते

CHAPTER XVI

Conclusions and Recommendations

Chapter I

Introductory

Chapter II

The Bengal and Bihar Coalfields

A large number of small collieries is a noticeable feature of the Bengal and Bihar coalfields which produce the bulk of India's coal production. The number of collieries has fluctuated in the past; the number is progressively getting reduced since 1950. The mineral rights in the permanently settled areas belonged to the landlords who gave leases and by a process of subleasing of various lessees' interest a class of intermediaries who collect a royalty from the producer of coal has been created. Labour position has been stabilised since the award of the Conciliation Board in 1947. The Industrial Tribunal for coal has now given a fresh award. But the conditions under which colliery labour live and work require further improvement. The need for adequate transport for coal is of paramount importance.

Chapter III

The background to the problem of Amalgamation

The existence of small and irregular collieries and the fact that in such areas scientific and planned mining may not be possible and that there is wastage of coal have been observed since 1919. Recommendation have been made by various Committees since 1919 that small collieries should be amalgamated. This Committee has been appointed in 1955 to work out more definite proposals.

Chapter IV

Experience in Foreign Countries

In most of the foreign countries, the collieries are large units. In U.K. the problem of amalgamation of colliery undertakings was tackled in various ways and by making statutory provisions; though some amalgamation took place, the objective aimed at could not be achieved. In Germany unification of mines has taken place voluntarily for the formation of units with large production.

Chapter V

The laws affecting the Coal Industry

The existing enactments and statutory orders affecting the Coal Industry which have a bearing on the problem of small collieries and their amalgamation, are the following:—

(i) The Mines Act and the Indian Coal Mines Regulations, which deal with safety, labour etc

(ii) The Coal Mines (Conservation & Safety) Act which deal with Conservation of Coal and Safety in Coal Mines. It is administered by a Coal Board which grants assistance for measures of conservation and safety and also controls the opening of mines.

(iii) The Colliery Control Order, under which the price of coal is controlled. There is control over the distribution of coal to various classes of consumers by allotment of wagons.

(iv) The Coal Mines Welfare Commissioner is in charge of general welfare and amenities for labour, including housing, health, water supply, education and recreation.

The Coal Mines Rescue Committee trains rescue workers.

The Coal Mines Provident Fund Act is administered by the Coal Mines Provident Fund Commissioner and the Bonus Scheme Act by the Regional Labour Commissioner.

(v) The Mines & Minerals (Development & Regulation) Act controls the leases for minerals including coal. The rules regarding mining leases are administered by the State Governments under the overall control of the Central Government.

(vi) The Bihar Land Reforms Act and the West Bengal Estates Acquisition Act are intended to vest in the State Governments the rights of royalty holders and intermediaries.

CHAPTER VI

The small collieries and their problems

The small collieries are large in number, but their overall output is small. They are small ventures with no equipment. They have no technical staff. They have no possibility of expansion. They cannot follow scientific and planned methods of exploitation of coal. They cannot tackle fires. They do not provide housing and other amenities to labour. Labour in these mines is not organised and collective bargaining is not generally possible. Labour is not paid wages according to the standards laid down and Provident Fund and other facilties are denied. There is wastage in production.

The country is going to need more coal and in the next decade or so, the requirements of coal for industrial purpose may increase to more than 200 million tons. New standards to improve the living and working conditions of labour are being laid down. If the Industry is to play its part in the immediate future, it should be reorganised. Such reorganisation is hardly possible if so many small units of production, with all the disadvantage mentioned are to be allowed to continue. They should therefore be amalgamated, brought under unified control, reorganised and modernised so that the existing resources will be exploited in the best possible manner and in the best interest of the Nation.

CHAPTER VII

Irregular Boundaries

1. The existence of irregular boundaries between collieries, of faults and other geological disturbances in seams in different coal mines and the surface features like jores, rivers, railway lines and roads over coal mines cause avoidable waste of coal and difficulties in extraction.

2. In order to minimize the locking of coal underground due to the existence of railway lines, roads, rivers etc., the boundaries should be redrawn and readjusted, so that such features form the boundaries wherever necessary.

3. In cases of geological disturbances like faults, dykes, etc. in coal seams the boundaries should as far as possible be readjusted so that the boundaries overlie such disturbances.

4. Registration of such transactions as may be necessary for adjustment of boundaries should be exempted from stamp duty or nominal stamp duties should be charged.

5. The Government of India may suggest to the State Governments concerned to take measures to ensure that the difficulties in the way of adjustment of boundaries, arising from different lease terms should be removed.

CHAPTER VIII

Coal Conservation

1. The proper re-estimation of the reserves of coal in India is necessary. We understand that a Committee is being appointed to draw up a procedure for estimation of reserves and to re-estimate the reserves of coal.

सत्यमेव जयते

2. Measures should be taken to ensure the maximum extraction of coal and for the best use of coal; at the same time the maximum possible extent of safety in coal Production should be ensured.

3. The Coal Board should make arrangements for the supply of sand and water in the case of collieries where stowing is urgent for safety and conservation of coal. Small collieries cannot carry out stowing even if sand were to be supplied. Stowing can be expanded by the amalgamation of collieries. Studies should also be carried out in regard to methods of pneumatic stowing and mechanical stowing and various methods of large scale transport of stowing materials.

4. Amalgamation of collieries will enable the Central Washeries to draw coal of fairly uniform washability characteristics from large units.

5. We understand that arrangements for coal blendnig are receiving attention.

6. Waste of coal in thin seams, and selective mining may be avoided by extensive stowing and washing.

CHAPTER IX

Modernisation and Mechanisation

1. Mechanisation of the hard operations of mining is essential to cut out the drudgery of human toil and to improve the output per man-shift.

2. In the working seams of collieries there is no large scope for mechanisation. But virgin seams should be properly laid out and planned.

3. Intensive mechanisation will be necessary when the coal requirements of the country cannot be met by present extent of mechanisation. But it is imperative that steps be taken to manufacture machinery and for training operators before such mechanisation can be effected.

CHAPTER X

Proper size of a colliery and the collieries to be amalgamated

1. Of 734 collieries in West Bengal and Bihar, 666 produce less than 10,000 tons a month. Of 491 collieries which replied to our questionnaire 205 have an area less than 100 acres. Considering the large number of small collieries which did not reply, the percentage of such collieries to the total may also be large. Judged by the criteria of production and area, the bulk of the collieries are small.

Output

2. In view of the fact that a colliery is expected to work coal without avoidable waste, follow scientific and efficient methods of mining and exploitation of coal, adhere to and implement all labour legislations, by giving adequate facilities and amenities to labour, avoid unnecessary wastage of coal in boundaries and in the support of surface features, the Committee considers that the output of any colliery should not be less than 10,000 tons a month.

Area

3. The area of a colliery should be such as to be able to produce 10,000 tons a month for a period of 50 years, but the area should not in any case be less than 100 acres.

Amalgamation

4. Any colliery which at the time of the implementation of the scheme of amalgamation is not producing in the region of 10,000 tons per month or has an areas of less than 100 acres should be amalgamated with one or more collieries or part or parts thereof.

Amalgamated Unit

5. The amalgamated unit shall consist of such number of collieries or part or parts of collieries as to fulfil the criterion regarding minimum production of 10,000 tons a month.

In forming such units due regard should be paid to the existence of fires, flooded areas, important surface features, such as railways, roads, rivers etc. and the natural disturbance encountered in or about the area so as to ensure maximum recovery of coal.

Discretionary Power

6. (a) Notwithstanding anything contained in the preceding paragraphs the Commission may exclude any colliery from the amalgamation scheme, if it is satisfied that due to special circumstances its amalgamation is not advisable, or expedient, or in the public interest.

(b) It may also exclude from the scheme of amalgamation, collieries producing more than 6000 tons of coal per month but less than 10,000 tons, if it is satisfied that such collieries are capable of producing 10,000 tons per month within the period of a year, if demand and transport were available for their output.

CHAPTER XI

The objectives and scope of amalgamation of collieries

We do not anticipate generally any technical difficulties arising out of the different collieries having the seams in different stages of development. In the case of non-contiguous collieries and particularly those existing in Karanpura, Ramgarh and Bokaro and other areas of Bihar, amalgamation is not possible now, but they may be amalgamated with any contiguous collieries which may be opened in future. The cases of horizontal fragmentation where separate undertakings work different seams in the same property should be investigated by the Commission. The system of appointment of Managing Contractors for different seams may also be worthy of study by the Commission.

Seam-wise fragmentation of collieries should be permitted only in special cases in the interests of the country. Cases of such fragmentation, wherever occurring should be examined by the Commission and if they are against the interests of Safety and Conservation they should be rectified.

CHAPTER XII

Methods and procedure of Amalgamation and Adjustment of Boundaries

1. The Central Government shall, in consultation with the Governments of West Bengal and Bihar appoint a Statutory Body, called the Collieries Amalgamation Commission consisting of a Chairman of the rank of High Court Judge and two other members, one being a Senior Mining Engineer and the other a Senior Accounts Expert. This Commission will draw up a scheme of amalgamation of collieries and adjustment of boundaries, hear objections and give decisions regarding the same.

2. If the Government consider it necessary they may in order to expedite the work appoint two or more Commissions. They may also decide upon a common Chairman if considered necessary to ensure uniformity.

3. The Commission will be authorised to hold enquiries for the discharge of their function and as such will have the powers of a Tribunal under the Investigations Act—1952.

4. All schemes of voluntary amalgamation and adjustment of boundaries will be notified to the Commission by the parties concerned.

5. The Commission will take all necessary steps for the purpose of implementation of the scheme of amalgamation of collieries and adjustment of boundaries including valuation of collieries.

6. *The Time Table*

Submission of the Report	31-10-1956
Legislation	31-3-1957
Appointment of Commission and Staff	30-4-1957
Collection of material for the Commission completed by	30-9-1957
Receipt by Commission of notices of voluntary amalgamation and adjustment of boundaries to be effected by collieries	30-9-1957
Approval by Commission of such voluntary amalgamation	28-2-1958
Completion by Commission of schemes of amalgamation and adjustment of boundaries	28-2-1958
Expiry of notices to collieries to submit objections to the schemes (clear two months' notice)	30-4-1958
Award of the Commission on the objections	31-7-1958
Date of implementation of amalgamation and adjustment of Boundaries	31-1-1959

7. The Central Government should appoint a Committee of three of its technical officers with powers to examine all proposals for voluntary amalgamation emanating from the collieries till the appointment of the proposed Collieries Amalgamation Commission.

The Committee will examine and modify when necessary and give its decision on any proposal submitted to it, within one month from the date of receipt of the scheme.

8. An amalgamated unit formed voluntarily should have a minimum area of 100 acres, a production of 10,000 tons a month, sufficient reserves and a proper shape; but a unit may be formed to give an output of 6,000 tons a month, if it can be increased when necessary to 10,000 tons within one year.

CHAPTER XIII

Central Legislation Required

1. We have taken note of the fact that suitable steps will be taken by the Governments of West Bengal and Bihar to take over the rights of all intermediaries and we hope that by this step the difficulties in the way of amalgamation and adjustment of boundaries on this account will be removed.

2. We are informed that there is a proposal to make royalty rates uniform and that necessary steps are being taken.

3. Powers of amalgamation of mining leases will have to be taken by an amendment of Sections 5 and 7 of the Mines and Minerals (Development & Regulation) Act and the Mineral Concession Rules will also require amendment. Composite legislation is required to effect amalgamation of collieries and adjustment of boundaries and for the appointment of Collieries Amalgamation Commission.

CHAPTER XIV

Valuation of Collieries, finance and the organisation to run the amalgamated units.

1. When one or more collieries are amalgamated the share of each colliery in the amalgamated unit may be decided:

(a) By mutual agreement between the parties.

(b) According to the value of each colliery determined by the Commission on the following basis:—

(i) Assets of the colliery consisting of mining rights, initial capital expenditure, shafts and inclines, machinery, plants and buildings, stores, stocks of coal.

(ii) Liabilities consisting of loans or encumbrances charged on the property should be deducted.

(iii) A surcharge equal to four times the net annual average profit, according to the Income Tax returns over a period of ten years from 1945 should be added. The Commission may also consider whether in addition to these any surcharge should be added in respect of coal reserves in working seams.

2. In case a colliery owner is not willing to join the amalgamated group, the colliery will be absorbed in the group and the owner will be paid by the amalgamated concern a compensation to be determined in the manner mentioned above. The compensation shall be payable in five equal annual instalments.

3. In order that the amalgamated units may function efficiently, financial assistance may be required and this will have to be provided through the three Government sponsored organisations which advance funds for industrial undertakings. If this is not found possible a new Corporation should be started. This may be financed by a cess on despatches of coal.

4. The form of organisation to run the amalgamated units may be decided by the parties concerned, but when they fail to agree the Commission may decide the form of organisation. In our opinion, Public Limited Companies would be the best.

CHAPTER XV

Effect on employment of labour

1. There is no likelihood of any appreciable change in the overall employment of labour due to amalgamation.

2. Only in the category of clerical and some other staff, some workers may be rendered surplus.

3. Certain adjustments in the employment pattern will be necessary. We endorse the proposal which is separately under consideration for the creation of a pool for surplus colliery workers.

4. The process of rationalisation and mechanisation after amalgamation should be gradual and only after arrangements for the absorption of surplus hands are made.

5. If the surplus hands are not absorbed, they should be maintained till natural elimination or absorption elsewhere takes place; such maintenance will be on such terms and conditions as are provided in the Industrial Disputes Act.

6. Adjustments should be made in consultation with representatives of labour and without adversely affecting the emoluments of the workers or increasing their workloads.

(Sd.) BALVANTRAY G. MEHTA,
Chairman.
(Sd.) A. MOHIUDDIN.
(Sd.) N. P. NATHWANI.
(Sd.) R. R. MORARKA.
(Sd.) S. S. GREWAL.
(Sd.) M. L. SHOME.
(Sd.) R. MAULIK.*
(Sd.) J. N. MOOKHERJEE.*
(Sd.) B. L. AGARWALA.*
(Sd.) B. N. BANERJEE.*
(Sd.)C. BHATTACHARJEE.†
(Sd.) KANTI MEHTA.

* Subject to a note.
†Subject to a note of dissent.

(Sd.) S. MAYURANATHAN, *Secretary.*
The 16th September, 1956.

सत्यमेव जयते

NOTE OF DISSENT NO. 1

NOTE BY SHRI CHAPALENDU BHATTACHARYA

Amalgamation of Collieries, it has been generally agreed, can only be expedited by amendment of the Mines and Minerals (D. & R.) Act of 1948.

The Amalgamation of Collieries, it is the view of the Committee, will necessitate altering terms and conditions of the lease as regards the *area* and period of the lease.

Witnesses examined by the Committee have pointed out how ex-landlords in Bihar have created leases on the eve of enforcement of the Bihar Land Reforms Act, 1950, for unreasonably long periods of 999 years and even in perpetuity on nominal rate of royalty and rent. This has lead heavy losses to the State Exchequer. With Land Reforms Act, 1950, the State Government of Bihar has the proprietary right in the soil as well as underground and will remain so till the Central Government acquires selected areas under Land Acquisition Act.

In the circumstances, the Central Government has been laying down Minerals Policy under various acts, particularly Mines and Minerals (R. & D.) Act, 1948, and left it generally to the State Governments to administer the Act and Rules thereunder.

Indeed this has been part of a larger arrangement embracing other spheres of activity. As a result of the recent enunciation of Industrial Policy by India a more comprehensive legislation for regulation of mines and minerals is inevitable.

For expediting this amalgamation, the association of the State Government, at every stage, voluntary or compulsory amalgamation becomes necessary.

The Statutory Commission of three proposed to give effect to schemes of amalgamation is proposed to be set up by the Government of India in consultation with Governments of Bihar and West Bengal. I, therefore, suggest the Statutory Commission should be composed of five persons, with one permanent representative each from the Governments of West Bengal and Bihar. To the proposed Statutory Commission of three as suggested by the Enquiry Committee may therefore be added a representative each from the Government of West Bengal and Bihar.

2. As regards recommendation No. 9 of Chapter XIII State Government should have first option to take over and run the amalgamated units on its own behalf.

(Sd.) CHAPALENDU BHATTACHARYA,
Member,

Committee on Amalgamation of Collieries.

The 16th September, **1956.**

NOTE BY SHRI B. N. BANERJEE

I have signed the Report subject to a note and I am giving below my views on the following points:—

(i) While 10,000 tons per month may be output to be aimed at Collieries having a monthly output of 2,500 tons and an area of not less than 100 acres with requisite reserve to permit an output of 10,000 tons a month for 50 years should be exempted by the Commission. This would have been a more realistic approach. For Indian conditions 2,500 tons could be considered the margin dividing small and larger collieries. There are many collieries having an area of not less than 100 acres with adequate reserve who are raising 2,500 tons and above per month but meet other requirements, such as scientific mining, amenities to labour etc. The output is a very uncertain and variable factor. It depends on many factors such as, stage of development of the mine, quality, geographical position, pilot and siding accommodation, ability of Railways to supply wagons, demand in the market, salesmanship etc. So it would be unreal to base any scheme of amalgamation on output as the main guiding factor.

Moreover if the Collieries raising 2,500 tons and more per month with requisite reserve are exempted from amalgamation main production unit would not be disturbed and the Country can ill afford a setback in the overall production of Coal which is to be stepped up by 10 million Tons during 2nd Five Year Plan period by private sector in Jharia and Raniganj field.

(ii) I would press that the State Government be associated with the process of amalgamation at every stage and State Government be represented on the Commission and no scheme of amalgamation should be final unless it gets the approval of the State Government.

I do not agree with the recommendation of the Committee that the Commission would consist of only one mining expert and one accounts expert in addition to the Chairman of the status of a High Court Judge. The task of this Commission will be mainly technical and commercial. They will have to deal with hundreds of collieries and with capital running into crores of rupees. The mining principle involved in each and every case are varied and controversial. It will be dangerous to depend on only one mining expert to give final opinion on each and every case. Moreover, the Commission will be dealing with the properties of the different State Governments who are not represented in the Commission. The Commission will decide the mines to be amalgamated and the pattern of lease holds in respect of the properties of an owner (State Government) who will have no say in the matter. This is an untenable situation and State Government cannot accept the position. I, therefore, suggest that the Commission should consist of a Chairman of the status of a High Court Judge, a mining expert and another representative from Land Revenue Department from each State Government together with two mining experts and some accounts experts as nominees of the Central Government. No proposal for amalgamation should be given effect to without the sanction of the State Government concerned.

(iii) It has been suggested that in extreme cases owners of all the mines proposed to be amalgamated may be unwilling to join. In such cases the Government may have to compensate the owners and step in. In such event the State Government should have the option of stepping in.

(Sd.) B. N. BANERJEE,
Member,

Committee on Amalgamation of Collieries.

सत्यमेव जयते

A NOTE BY SHARVASARI J. N. MOOKHERJEE, B. L. AGARWALLA AND R. MAULIK.

We have signed the report of the Committee subject to the following note:—

(1) In the constitution of the Commission recommended by the Committee we suggest inclusion of a person having knowledge and experience of commercial matters in the Coal Industry.

(2) We recommend that in giving their decision in regard to the necessity for amalgamation of any colliery, the Commission should lay emphasis on the minimum area and reserves, as recommended by the Committee in their conclusions in Chapter 10, rather than the actual production. We suggest this because we feel that actual production of a colliery is circumscribed by factors such as demand and transport availability which are extraneous to the inherent capacity of production in a colliery. We, therefore, recommend that collieries fulfilling the conditions of areas and reserves should generally be excluded from the scheme of amalgamation.

(3) We also recommend that consideration should be given to the effect of a large-scale reorganisation of the Industry at a time when increased production of coal is a national necessity. We, therefore, suggest that instead of implementing the recommendation all at once, the Commission should start by amalgamating collieries having very small areas.

(Sd.) J. N. MOOKHERJEE.
(Sd.) B. L. AGARWALA.
(Sd.) R. MAULIK.

सत्यमेव जयते

GMGIPD—L—23 M of Produc.—500